

3.3 AIR QUALITY

3.3.1 Introduction

This section focuses on the potential for the Species Conservation Habitat Project (SCH Project or Project) to conflict with or obstruct an applicable air quality attainment plan, violate air quality standards, increase criteria pollutants for which the region is in nonattainment, expose sensitive receptors to substantial pollutant concentrations, and modify the existing microclimate next to the Salton Sea. It also addresses the need for a General Conformity Determination because of the Federal involvement. Greenhouse gas emissions are analyzed in Section 3.9, Greenhouse Gas Emissions/Climate Change. The potential for impacts from exposure to pesticides contained in the sediments disturbed during construction is addressed in Section 3.10, Hazards and Hazardous Materials.

The study area includes the Salton Sea Air Basin (Basin). Imperial County Air Pollution Control District (ICAPCD) and South Coast Air Quality Management District (SCAQMD) have jurisdiction over the Basin's southern and northern portions, respectively. SCAQMD oversees the northern Basin's Riverside County and Coachella Valley portions. ICAPCD oversees Calexico, Imperial County, and the Imperial Valley in the southeastern Basin, which is where the Project would be located. Thus, the Project falls exclusively under ICAPCD's jurisdiction.

Table 3.3-1 summarizes the impacts of the six Project alternatives on air quality, compared to both the existing conditions and the No Action Alternative.

| Table 3.3-1 Summary of Impacts on Air Quality | | | | | | | | |
|--|---------------------|---------------------|---|---|---|---|---|---|
| Impact | Basis of Comparison | Project Alternative | | | | | | Mitigation Measures |
| | | 1 | 2 | 3 | 4 | 5 | 6 | |
| Impact AQ-1: Emissions from Project construction and maintenance are accounted for in applicable air quality plans and would not conflict with or obstruct their implementation. | Existing Condition | L | L | L | L | L | L | None required |
| | No Action | L | L | L | L | L | L | None required |
| Impact AQ-2: The SCH ponds would cover more playa than would be exposed as a result of the Project, reducing the potential for wind-blown fugitive dust. | Existing Condition | B | B | B | B | B | B | None required |
| | No Action | B | B | B | B | B | B | None required |
| Impact AQ-3a: The Project would contribute incrementally to violations of Federal and state O ₃ , PM ₁₀ , and PM _{2.5} standards and exceed ICAPCD's NO _x and PM ₁₀ thresholds during construction (applies to Alternatives 1, 2, and 3). | Existing Condition | U | U | U | — | — | — | MM AQ-1: Implement fugitive PM ₁₀ control measures. MM AQ-2: Implement diesel control measures. |
| | No Action | U | U | U | — | — | — | Same as Existing Condition |
| Impact AQ-3b: The Project would contribute incrementally to violations of Federal and state O ₃ , PM ₁₀ , and PM _{2.5} standards and exceed ICAPCD's NO _x thresholds during construction (applies to Alternatives 4, 5, and 6). | Existing Condition | | | | U | U | U | MM AQ-1: Implement fugitive PM ₁₀ control measures. MM AQ-2: Implement diesel control measures. |

Table 3.3-1 Summary of Impacts on Air Quality

| Impact | Basis of Comparison | Project Alternative | | | | | | Mitigation Measures |
|--|---------------------|---------------------|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | |
| | No Action | | | | U | U | U | Same as Existing Condition |
| Impact AQ-4: The Project would contribute incrementally to violations of Federal and state O ₃ , PM ₁₀ , and PM _{2.5} standards during operations but would not exceed any regulatory thresholds. | Existing Condition | L | L | L | L | L | L | None required |
| | No Action | L | L | L | L | L | L | None required |
| Impact AQ-5: Project construction would result in a cumulatively considerable/significant net increase in emissions. | Existing Condition | U | U | U | U | U | U | MM AQ-1: Implement fugitive PM ₁₀ control measures. MM AQ-2: Implement diesel control measures. |
| | No Action | U | U | U | U | U | U | Same as Existing Condition |
| Impact AQ-6: Project emissions from construction and maintenance would not expose sensitive receptors to substantial pollutant concentrations. | Existing Condition | L | L | L | L | L | L | None required |
| | No Action | L | L | L | L | L | L | None required |
| Impact AQ-7: The Project could result in localized odors during construction, operations, and maintenance. | Existing Condition | L | L | L | L | L | L | None required |
| | No Action | L | L | L | L | L | L | None required |
| Impact AQ-8: The Project would have a minor effect on the microclimate near the Salton Sea. | Existing Condition | L | L | L | L | L | L | None required |
| | No Action | L | L | L | L | L | L | None required |
| Note: O = No Impact L = Less-than-Significant Impact S = Significant Impact, but Mitigable to Less than Significant U = Significant Unavoidable Impact B = Beneficial Impact | | | | | | | | |

- 1
- 2 **3.3.2 Regulatory Setting**
- 3 During construction, the Project would temporarily cause criteria emissions from the combustion of fossil
- 4 fuels (i.e., diesel, gasoline) used to run construction equipment and vehicles, both on and off site.
- 5 Construction activities would also cause emissions of fugitive dust, primarily as PM₁₀. During operation,
- 6 the Project would result in emissions from on-road and off-road mobile sources used to achieve the
- 7 habitat conservation goals. No stationary sources would be associated with Project operation. Therefore,
- 8 regulations associated with stationary sources are not addressed.

3.3.2.1 Federal and State Air Quality Standards

The Clean Air Act of 1970 (CAA, amended 1977 and 1990, 42 United States Code [USC] section 7401 et seq.) established National Ambient Air Quality Standards (NAAQS), and individual states retained the option to adopt more stringent standards and to include other pollution sources. California had already established its own air quality standards when Federal standards were established, and because of the unique meteorological problems in the state, diversity between the Federal and the state standards currently in effect in California is considerable, as shown in Table 3.3-2 below. California Ambient Air Quality Standards (CAAQS) are at least as protective as national standards (as required by Federal law) and are often more stringent.

The ambient air quality standards shown in Table 3.3-2 are intended to protect the public health and welfare and specify the concentration of pollutants (with an adequate margin of safety) to which the public may be exposed without adverse health effects. The standards are designed to protect those segments of the public most susceptible to respiratory distress (known as sensitive receptors), including asthmatics, the very young, the elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels somewhat above the ambient air quality standards before adverse health effects are observed.

| Table 3.3-2 Ambient Air Quality Standards | | | | | |
|--|-----------------------|-----------------------------|-------------------------|---------------------------|-------------------------|
| Pollutant | Averaging Time | California Standards | | National Standards | |
| | | ppmv | µg/m³ | ppmv | µg/m³ |
| Ozone (O ₃) | 1-hour | 0.09 | 177 | -- | -- |
| | 8-hour | 0.07 | 137 | 0.075 | 147 |
| Nitrogen Dioxide (NO ₂) | 1-hour | 0.18 | 338 | 0.100 | 188 |
| | Annual | 0.03 | 56 | 0.053 | 100 |
| Sulfur Dioxide (SO ₂) | 1-hour | 0.25 | 655 | 0.075 | 196 |
| | 3-hour (secondary) | -- | -- | 0.50 | 1,309 |
| | 24-hour | 0.04 | 105 | -- | -- |
| | Annual | -- | -- | 0.03 | 79 |
| Carbon Monoxide (CO) | 1-hour | 20 | 22,898 | 35 | 40,071 |
| | 8-hour | 9 | 10,304 | 9 | 10,304 |
| | Lake Tahoe (8-hr) | 6 | 6,869 | -- | -- |
| Particulates (as PM ₁₀) | 24-hour | -- | 50 | -- | 150 |
| | Annual | -- | 20 | -- | -- |
| Particulates (as PM _{2.5}) | 24-hour | -- | -- | -- | 35 |
| | Annual | -- | 12 | -- | 15 |
| Lead (Pb) | 30-day | -- | 1.5 | -- | -- |
| | 3-month (rolling)* | -- | -- | -- | 0.15 |
| Sulfates (as SO ₄) | 24-hour | -- | 25 | -- | -- |
| Hydrogen Sulfide (H ₂ S) | 1-hour | 0.03 | 42 | -- | -- |

| Table 3.3-2 Ambient Air Quality Standards | | | | | |
|---|----------------|---|-------|--------------------|-------|
| Pollutant | Averaging Time | California Standards | | National Standards | |
| | | ppmv | µg/m³ | ppmv | µg/m³ |
| Vinyl Chloride (C ₂ H ₃ Cl) | 24-hour | 0.01 | 26 | -- | -- |
| Visibility Reducing Particles | 8-hour | Extinction coefficient of 0.23 per kilometer; visibility of 10 miles or more (0.07 to 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. | | -- | -- |

Sources: CARB 2010f; USEPA 2010

Notes:

ppmv = part(s) per million by volume

µg/m³ = microgram(s) per cubic meter

* The 1.5 µg/m³ Federal quarterly lead standard applied until 2008; 0.15 µg/m³ rolling 3-month average thereafter

For gases, µg/m³ calculated from ppmv based on molecular weight and standard conditions

Standard temperature 25 degrees Celsius

Standard molar volume 24.465 liter/g-mole

3.3.2.2 Federal Regulations

National Ambient Air Quality Standards

The Federal CAA and Clean Air Act Amendments (CAAA) regulations (42 USC section 7401 et seq., as amended in 1977 and 1990, and 40 Code of Federal Regulations [CFR] parts 50 through 99) serve as the basis for regulating air pollution in the United States. Pursuant to the Federal CAA of 1970, the United States Environmental Protection Agency (USEPA) established the NAAQS. The NAAQS were established for six major pollutants, termed “criteria” pollutants. Criteria pollutants are defined as those pollutants for which the Federal and state governments have established ambient air quality standards for outdoor concentrations to protect public health. The NAAQS are two tiered: primary, to protect public health; and secondary, to prevent degradation of the environment (e.g., impairment of visibility, damage to vegetation and property, etc.).

The six Federal criteria pollutants are ozone (O₃), carbon monoxide (CO), particulate matter (which includes both PM₁₀ and PM_{2.5}), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and lead (Pb). The Federal primary standards for these criteria pollutants, as well as the California standards for criteria pollutants, are shown in Table 3.3-2. USEPA uses ambient air data collected at permanent monitoring stations to classify regions as “attainment” or “nonattainment” depending on whether the regions meet the requirements stated in the primary NAAQS. Additional restrictions as required by USEPA are imposed on nonattainment areas in an effort to reach attainment.

The CAAA of 1990 identifies specific emission reduction goals and requires states with nonattainment areas to achieve the NAAQS by developing a State Implementation Plan (SIP). USEPA must approve the SIP and the SIP serves as the state’s commitment to actions that will reduce or eliminate air quality

problems. An important aspect of the SIP is to designate a planning organization that will promulgate rules and implement strategies to achieve the NAAQS.

General Conformity Rule

Section 176(c)(1) of the CAAA (42 USC section 7506(c)) is known as the General Conformity Rule. It prohibits the Federal government from “engag[ing] in, support[ing] in any way, or provid[ing] financial assistance for, licens[ing] or permit[ing] or approv[ing] any activity” that does not conform to a SIP approved by the USEPA. The conformity rule was designed to ensure that Federal actions do not impede local efforts to control air pollution and requires Federal agencies to demonstrate that their actions “conform with” (i.e., do not undermine) the approved SIP for the subject geographic area. The first step in determining whether conformity review is required is to assess whether the Federal action would take place in a Federal nonattainment or maintenance area; i.e., an area that does not meet the NAAQS. If the action would occur in such an area, then it is necessary to determine whether the action would result in the emission of an air pollutant that is regulated due to the nonattainment or maintenance status of the region. If so, the Federal action may nonetheless be exempt.¹ If the action is not exempt, then one must determine whether the emissions from the action would exceed threshold levels. If threshold levels would be met or exceeded, then a conformity review is required (40 CFR section 93.153(b)).

As discussed in Section 3.3.4.5, Attainment Status Designations, Imperial County is designated moderate nonattainment for the Federal 8-hour O₃ NAAQS, while the Imperial Valley (which is the Salton Sea Air Basin’s Imperial County portion) is designated as serious nonattainment area for 24-hour Federal PM₁₀ and PM_{2.5}. The entire County is designated as a state nonattainment area for O₃ and PM₁₀.

3.3.2.3 State Regulations

Pursuant to the Federal CAA, states have the right to establish and enforce their own air quality standards; state standards may be equal to or more stringent, but not less stringent than Federal standards. In 1988, the state legislature passed the California Clean Air Act (CCAA) (California Health and Safety Code section 39600 et seq.), which, like its Federal counterpart, called for designations of areas as attainment or nonattainment based on state rather than Federal standards.

Similar to the Federal CAA, the CCAA also classifies areas according to pollution levels. Under the CCAA, and as discussed previously, Imperial County is designated nonattainment for the state 8-hour O₃ CAAQS, while the Imperial Valley (which is the Imperial County portion of the Salton Sea Air Basin) is designated as nonattainment area for state PM₁₀. The Basin’s western Riverside County portion is designated as nonattainment for the 8-hour O₃ and PM₁₀ CAAQS. The entire county is designated as a state nonattainment area for O₃ and PM₁₀. The Coachella Valley, located in the Basin and under SCAQMD’s jurisdiction, is designated nonattainment for PM₁₀. In addition, localized CO concentrations, also known as CO “hotspots,” may occur at heavily traveled roadways, particularly at intersections or other locations where the traffic is congested and vehicles idle for prolonged periods. CO concentrations exceeding the existing standard may occur at intersections that operate at Level of Service D or worse.

California Clean Air Act

In 1988, the California Legislature passed the CCAA (California Health and Safety Code section 39600 et seq.), which, like the Federal CAA, called for designations of areas as attainment or nonattainment, based on state rather than Federal standards. The CCAA requires air quality plans to be prepared for state areas

¹ The exemptions are set out in 40 CFR section 93.153, subdivisions (c) and (d) and include activities that would result in no emissions increase or an increase in emissions that is clearly de minimis. None of these exemptions apply here.

that have not demonstrated they have met state air quality standards for O₃, CO, nitrogen oxides (NO_x), and SO₂. These plans require a range of control measures.

California Air Resources Board (CARB)

CARB is the state agency responsible for regulating air quality. CARB's responsibilities include establishing state ambient air quality standards, emissions standards, and regulations for mobile emissions sources (e.g., autos, trucks, etc.), as well as overseeing the efforts of countywide and multicounty air pollution control districts, which have primary responsibility over stationary sources. The emission standards most relevant to the SCH Project are those related to automobiles, light- and medium-duty trucks, and California heavy-duty truck and construction equipment engines. CARB also regulates vehicle fuels with the intent to reduce emissions; to this end, CARB has set emission reduction performance requirements for gasoline (California reformulated gasoline) and has stringently limited the sulfur and aromatic content of diesel fuel to make it burn cleaner. CARB also sets the standards used to pass or fail vehicles in smog-check and heavy-duty truck inspection programs.

3.3.2.4 Source-Specific Regulations

Nonroad Engine Standards

CARB regulates mobile sources of air pollution in the state of California. Self-propelled off-road construction equipment is considered a vehicle, as defined by the California Vehicle Code. A vehicle may have an engine that both propels the vehicle and powers equipment mounted on the vehicle. As such, vehicles are generally exempt from regulation by local air districts. However, not included in exemption provisions is any equipment mounted on a vehicle that would otherwise require a permit per ICAPCD's rules and regulations.

Federal Tier 1 standards for off-road diesel engines were adopted as part of the California requirements for 1995. Federal Tier 2 and Tier 3 standards were adopted in 2000 and selectively apply to the full range of diesel off-road engine power categories. Both Tier 2 and 3 standards include durability requirements to ensure compliance with the standards throughout the useful life of the engine (40 CFR sections 89.112, 13; California Code of Regulations [CCR] section 2423).

Air Toxics Control Measures

On July 26, 2007, CARB adopted a regulation to reduce diesel particulate matter (DPM) and NO_x emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. Not included in this category are locomotives, commercial marine vessels, marine engines over 50 horsepower, or recreational vehicles (RVs). This regulation supplements existing tiered emission standards for off-road diesel engines in California (CARB 2010e).

Senate Bill 656

Senate Bill 656 is a planning requirement that calls for a plan and strategy for reducing PM_{2.5} and PM₁₀. This bill requires CARB to identify, develop, and adopt a list of control measures to reduce PM_{2.5} and PM₁₀ emissions from new and existing stationary, mobile, and area sources. ICAPCD has developed particulate matter control measures and submitted plans to CARB that include lists of measures to reduce particulate matter. Under the plans, ICAPCD is required to continue to assess PM_{2.5} and PM₁₀ emissions and their impacts.

1 ***Toxic Air Contaminants***

2 A project with the potential to expose sensitive receptors (including residential areas) or the general
3 public to substantial levels of toxic air contaminants (TACs), as designated by CARB under 17 CCR
4 section 93001 would be deemed to have a significant impact. Projects that would locate receptors near
5 existing TAC sources are included, as well as projects that would place TAC sources near existing
6 receptors.

7 Projects that have the potential to expose the public to TACs in excess of the following thresholds would
8 be considered to have a significant air quality impact for receptors within 1,000 feet of a source boundary.
9 These thresholds, which are based on the neighboring SCAQMD Rule 1401(d), are as follows:

- 10 • Maximum Individual Cancer Risk (MICR) and Cancer Burden - Pursuant to this rule, the cumulative
11 increase in MICR (the sum of the MICR values for all TACs from the permit unit) shall not result in
12 any of the following:
 - 13 • An increased MICR greater than one in one million (1.0×10^{-6}) at any receptor location, if the
14 permit unit is constructed without Toxic Best Available Control Technology (TBACT);
 - 15 • An increased MICR greater than 10 in 1 million (1.0×10^{-5}) at any receptor location, if the
16 permit unit is constructed with TBACT;
 - 17 • A population cancer burden greater than 0.5.
- 18 • Chronic Hazard Index (HI) - The cumulative increase in total chronic HI for any target organ system
19 due to total emissions from the permit unit for which applications were deemed complete on or after
20 the date when the risk value for the compound is finalized by the Office of Environmental Health
21 Hazard Assessment, unless paragraph (e)(3) applies, will not exceed 1.0 at any receptor location.
- 22 • Acute Hazard Index- The cumulative increase in total acute HI for any target organ system due to
23 total emissions from the new, relocated, or modified permit unit for which applications were deemed
24 complete on or after the date when the risk value for the compound is finalized by the Office of
25 Environmental Health Hazard Assessment, unless paragraph (e)(3) applies, will not exceed 1.0 at any
26 receptor location.
- 27 • Risk Per Year - The risk per year will not exceed 1/70 of the maximum allowable risk specified in
28 (d)(1)(A) or (d)(1)(B) at any receptor locations in residential areas.

29 DPM is considered a TAC in California (Bay Area Air Quality Management District 2008).

30 ***Portable Equipment Registration Program (PERP)***

31 The statewide PERP establishes a uniform program to regulate portable engines and portable engine-
32 driven equipment units. Once registered in PERP, engines and equipment units may operate throughout
33 the state of California without the need to obtain individual permits from local air districts. Owners or
34 operators of portable engines and certain types of equipment can register their units under the PERP to
35 operate their equipment anywhere in the state.

36 The Project is not subject to ICAPCD's Authority to Construct requirements because the Project would
37 not include construction of any stationary air pollution sources that are subject to ICAPCD's review (all
38 permanently installed water pumps would be electrically operated).

Nuisance (Odors)

ICAPCD's Rule 407 states that "No Person shall discharge from any Source whatsoever such quantities of Air Contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property."

3.3.2.5 Local Regulations

ICAPCD is the regional agency responsible for air quality regulation within the study area. ICAPCD regulates air quality through planning and review activities and has permit authority over most types of stationary emission sources and can require stationary sources to obtain permits; it can also impose emission limits, set fuel or material specifications, or establish operational limits to reduce air emissions. Regulation VIII, Fugitive Dust Control Measures includes standard measures that are required at all construction sites, regardless of size in order to reduce PM₁₀ emissions (refer to Appendix G). ICAPCD also regulates new or expanding stationary TAC sources. ICAPCD indirectly regulates construction projects that use mobile sources via the statewide PERP discussed above. Since none of the Project alternatives would include equipment that meets the definition of a permanent stationary source, no Authority to Construct (Permit) would be required from ICAPCD.

3.3.3 Affected Environment

The pollutants of greatest concern in the Salton Sea Air Basin are O₃ and O₃ precursors, NO_x, and volatile organic compounds (VOCs)², largely due to fuel combustion in vehicles and equipment, and PM₁₀ and PM_{2.5} from soil disturbance and wind erosion (in the form of fugitive dust). Agricultural operations and transport of pollutants from Mexico also affect local air quality conditions.

3.3.3.1 Climate and Meteorological Conditions

The climate of the Salton Sea Air Basin area is typical desert, with large daily and seasonal fluctuations in temperature and relatively high annual average temperatures. High temperatures frequently exceed 100 degrees Fahrenheit (°F) during the summer months. In winter, temperatures can drop to near freezing (and below freezing at higher elevations). Throughout the year, average daily relative humidity is low, as are average rainfall values. Meteorological data listed in Table 3.3-3 are for the period September 2009 through October 2010 for the California Irrigation Management Information System (CIMIS) meteorological stations overseen in the Imperial/Coachella Valley region by the Office of Water Use Efficiency, California Department of Water Resources (DWR).

| Table 3.3-3 Meteorological Data for the Imperial/Coachella Valley Region (September 2009–October 2010) | | | | | | | | | | |
|---|---------------------|-------------------------|------------|------------|------------------------------|------------|------------|----------------------|-------------------|------------|
| Station | | Temperature (°F) | | | Relative Humidity (%) | | | Rain (inches) | Wind (mph) | |
| CIMIS Number | Name | Max | Min | Avg | Max | Min | Avg | | Avg | Max |
| 41 | Calipatria/Mulberry | 106.9 | 36.3 | 69.6 | 87 | 18 | 47 | 1.44 | 4.5 | 5.9 |
| 68 | Seeley | 105.1 | 40.7 | 71.8 | 81 | 19 | 41 | 1.55 | 5.4 | 8.0 |

² The terms volatile organic compounds (VOCs), nonmethane hydrocarbons (NMHC), and reactive organic gases/compounds (ROGs/ROCs) are used synonymously.

**Table 3.3-3 Meteorological Data for the Imperial/Coachella Valley Region
(September 2009–October 2010)**

| Station | | Temperature (°F) | | | Relative Humidity (%) | | | Rain (inches) | Wind (mph) | |
|---|-----------------|------------------|------|------|-----------------------|-----|-----|------------------|------------|-----|
| CIMIS Number | Name | Max | Min | Avg | Max | Min | Avg | | Avg | Max |
| 87 | Meloland | 106.6 | 40.0 | 71.6 | 77 | 19 | 43 | 3.16 | 5.4 | 7.6 |
| 118 | Cathedral City | 103.3 | 42.6 | 70.9 | 69 | 15 | 37 | 0.0 | 2.5 | 3.3 |
| 127 | Salton Sea West | 103.6 | 47.1 | 73.8 | 69 | 14 | 38 | NA | 5.7 | 6.9 |
| 128 | Salton Sea East | 109.5 | 41.3 | 72.3 | 93 | 23 | 55 | NA | 5.8 | 8.4 |
| 135 | Blythe NE | 104.5 | 36.7 | 69.5 | 94 | 17 | 45 | 3.72 | 5.6 | 7.3 |
| 136 | Oasis | 105.1 | 42.1 | 56.2 | 97 | 13 | 41 | 1.44 | 4.6 | 5.8 |
| 151 | Ripley | 102.3 | 34.9 | 68.9 | 93 | 17 | 45 | 2.15 | 4.9 | 6.2 |
| 175 | Palo Verde II | 104.0 | 32.9 | 67.8 | 90 | 21 | 47 | 0.0 | 3.3 | 5.4 |
| 186 | UC-San Luis | 104.4 | 36.8 | 77.5 | 91 | 11 | 41 | 3.17 | 3.7 | 5.1 |
| Source: CIMIS 2010. Note: Period of Record – September 2009 through October 2010. Avg = average Max = maximum Min = minimum NA = not available | | | | | | | | | | |

A description of meteorological conditions (which follow) for the Salton Sea Air Basin was obtained from the Imperial County General Plan (County of Imperial 2008). Temperature patterns are similar throughout the Basin, and climatic conditions are influenced by large-scale warming and sinking of air in the semipermanent subtropical high-pressure center over the Pacific Ocean. The high-pressure ridge blocks most mid-latitude storms, except in the winter when the high-pressure ridge is further south and at its weakest. The coastal mountains obstruct the cool, damp air found in California's coastal regions.

The flat terrain and strong temperature differentials created by the intense heating and cooling patterns produce moderate winds and deep thermal circulation systems. Thus, even though the summers are hot, the general dispersion of local air pollution is greater than in the coastal basins where polluted inversion layers may remain for long periods.

Daily temperature fluctuations and seasonal variations can be extreme. Clear skies and rapid heating and cooling of desert soils result in high daytime temperatures followed by rapid cooling at night. Daily temperatures range from the mid-40s to low-70s°F in winter, and from the low-70s to mid-100s°F in summer. The average annual rainfall is about 3 inches, while the average annual air temperature is about 72°F.

Microclimate

The discussion of microclimate is taken from the *Salton Sea Ecosystem Restoration Program Final Programmatic Environmental Impact Report* (DWR and California Department of Fish and Game [DFG] 2007). The Sea affects the extreme desert climate by creating its own microclimate. The most notable

features of this local microclimate are the Sea's moderating effect on temperature and the creation of localized wind patterns, or lake breezes, resulting from the differential heating of the land and water surface.

The Salton Sea also has a seasonal effect on local temperature. Lakes of this size can retain heat during the cooler months of the year, and influence nearshore temperatures. Conversely, the Sea causes a slight cooling effect nearshore during warmer months, occurring without the more noticeable lake breeze effect. Agricultural land near the shoreline can benefit from these temperature effects, which can extend growing seasons.

Lake breezes are the result of differential heating of land and water surfaces and are most pronounced near large water bodies, such as the Salton Sea, that have noticeable temperature differences compared with the adjacent land. Daytime onshore breezes are created when the land heats faster than the nearby water surface, causing the air over the land to rise and cooler air over the water to move in over the land. At night, circulation is reversed as the water retains heat while the land cools quickly. Because the temperature differences between the water and land surfaces govern the lake breeze circulation, winds are usually strongest during the daytime close to the shoreline and are reduced with distance inland. Through the daytime lake breeze circulation, a pronounced effect on temperatures near the shoreline can be experienced as cooler air moves onshore during the day (County of Imperial 1993, as cited in DWR and DFG 2007).

Wind patterns in the Salton Sea area are strongly influenced by topography and by its northwest/southeast trend as a result of major terrain features. The Santa Rosa Mountains trend northwest/southeast along and beyond the Sea's western side, while the Chocolate Mountains trend northwest/southeast on the Sea's eastern side about halfway down the Sea's length. Smaller-scale mountains continue on the Sea's eastern edge. These terrain features form barriers to air flow and affect the climate and the winds in the area.

Consistent with these terrain features, the Coachella Valley to the northwest and the Imperial Valley to the southeast influence area winds as well as the Salton Sea itself. No strong frontal systems or strong gradients between high- and low-pressure areas would result in regionally dominant wind direction, and subsequently winds from the Coachella and Imperial valleys tend to converge in the Sea's vicinity, creating complex airflow patterns that differ from north to south. Because of the dynamics established by the various mountains, valleys, and the water surface, and in response to extreme summer temperatures, wind conditions vary significantly over short distances at the Sea.

3.3.3.2 Criteria Air Pollutants

A criteria or regulated air pollutant is any air pollutant for which ambient air quality standards have been set by USEPA or CARB. Primary air quality standards are established to protect human (public) health. Secondary air quality standards are designed to protect public welfare from effects such as diminished production and quality of agricultural crops, reduced visibility, degraded soils, materials and infrastructure damage, and damaged vegetation. Criteria pollutants include O₃, NO₂, CO, SO₂, PM₁₀, and PM_{2.5}. The six most prevalent criteria pollutants and their potential health effects are described below. While ambient standards exist for lead (Pb)³, sulfates (as SO₄)⁴, hydrogen sulfide (H₂S)⁵, and vinyl chloride (C₂H₃Cl)⁶ (Table 3.3-2), these would not be emitted in quantifiable amounts and would have no measureable impact on ambient air quality in the study area. In particular, the use of California ultra-low

³ Mainly associated with demolition of old buildings with lead paint surfaces; formerly associated with use of tetraethyl lead as an octane booster in leaded gasoline (still used in aviation and racing fuels).

⁴ Commonly found in sea spray and alkali dust (dry lake beds).

⁵ Mainly associated with oil and gas production.

⁶ Common monomer used in plastics manufacture (i.e., polyvinylchloride).

sulfur diesel fuel in off-road equipment and on-road vehicles (trucks) precludes significant emissions of SO₂, and results in only trace amounts of H₂S and SO₄.

Ozone

Ground-level O₃ is a secondary pollutant formed in the atmosphere by a series of complex chemical reactions and transformations in the presence of sunlight above urban areas due to the mixing effects of temperature inversions. NO_x and ROG⁷s are the principal constituents in these reactions. NO_x and ROG emissions are predominantly attributed to mobile sources (on-road motor vehicles and other mobile sources). Thus, regulation and control of NO_x and ROG from these sources is essential to reduce the formation of ground-level O₃.

O₃ is a strong irritating gas that can chemically burn and cause narrowing of airways, forcing the lungs and heart to work harder to provide oxygen to the body. A powerful oxidant, O₃ is capable of destroying organic matter, including human lung and airway tissue; it essentially burns through cell walls. O₃ damages cells in the lungs, making the passages inflamed and swollen. O₃ also causes shortness of breath, nasal congestion, coughing, eye irritation, sore throat, headache, chest discomfort, breathing pain, throat dryness, wheezing, fatigue, and nausea. It can damage alveoli, the individual air sacs in the lungs where oxygen and carbon dioxide are exchanged. O₃ has been associated with a decrease in resistance to infections. People most likely to be affected by O₃ include the elderly, the young, and athletes. O₃ may pose its worst health threat to people who already suffer from respiratory diseases such as asthma, emphysema, and chronic bronchitis (Ventura County Air Pollution Control District [VCAPCD] 2003).

Nitrogen Dioxide

NO₂ is formed in the atmosphere primarily by the rapid reaction of the colorless gas nitric oxide (NO) with atmospheric oxygen. It is a reddish brown gas with an odor similar to that of bleach. NO₂ participates in the photochemical reactions that result in O₃. The greatest source of NO, and subsequently NO₂, is the high-temperature combustion of fossil fuels such as in motor vehicle engines and power plant boilers. NO₂ and NO are referred to collectively as NO_x. NO₂ can irritate and damage the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections such as influenza. Researchers have identified harmful effects, similar to those caused by O₃, with progressive changes over 4 hours of exposure causing impaired pulmonary function, increased incidence of acute respiratory disease, and difficult breathing for both bronchitis sufferers and healthy persons (VCAPCD 2003).

Carbon Monoxide

CO is a common, colorless, odorless, highly toxic gas. It is produced by natural and anthropogenic (caused by human activity) combustion processes. The major CO source in urban areas is incomplete combustion of carbon-containing fuels (primarily gasoline, diesel fuel, and natural gas). However, it also results from combustion processes including forest fires and agricultural burning. Ambient CO concentrations are generally higher in the winter, usually on cold, clear days and nights with little or no wind. Low wind speeds inhibit horizontal dispersion, and surface inversions inhibit vertical mixing. Traffic-congested intersections have the potential to result in localized high CO levels.

When inhaled, CO does not directly harm the lungs. The impact from CO is on oxygenation of the entire body. CO combines chemically with hemoglobin, the oxygen-transporting component of blood, which diminishes the ability of blood to carry oxygen to the brain, heart, and other vital organs. Red blood cells have 220 times the attraction for CO as for oxygen. This affinity interferes with movement of oxygen to the body's tissues. Effects from CO exposure include headaches, nausea, and death. People with heart ailments are at risk from low-level exposure to CO. Also sensitive are people with chronic respiratory

⁷ Also referred to as reactive organic compounds or VOCs.

disease, the elderly, infants and fetuses, and people suffering from anemia and other conditions that affect the oxygen-carrying capacity of blood. High CO levels in a concentrated area can result in asphyxiation. Studies show a synergistic effect when CO and O₃ are combined (VCAPCD 2003).

Sulfur Dioxide

SO₂ is a colorless gas with a sharp, irritating odor. It can react in the atmosphere to produce sulfuric acid and sulfates, which contribute to acid deposition and atmospheric visibility reduction. It also contributes to the formation of PM₁₀. Most of the SO₂ emitted into the atmosphere is from burning sulfur-containing fossil fuels by mobile sources such as marine vessels and farm equipment and stationary fuel combustion. SO₂ irritates the mucous membranes of the eyes and nose and may also affect the mouth, trachea, and lungs. Healthy people may experience sore throats, coughing, and breathing difficulties when exposed to high concentrations. SO₂ causes constriction of the airways and poses a health hazard to asthmatics, which are very sensitive to SO₂. Children often experience more respiratory tract infections when they are exposed to SO₂ (VCAPCD 2003).

Respirable Particulate Matter, 10 Microns

PM₁₀ consists of particulate matter, fine dusts and aerosols, 10 microns or smaller in diameter. When inhaled, particles larger than 10 microns generally are caught in the nose and throat and do not enter the lungs. PM₁₀ can enter the large upper branches of the lungs just below the throat, where they are caught and removed (by coughing, spitting, or swallowing).

The primary PM₁₀ sources include dust from paved and unpaved roads and construction and demolition operations. Lesser PM₁₀ sources include wind erosion, agricultural operations, residential wood combustion, smoke, tailpipe emissions, and industrial sources. These sources have different constituents and, therefore, varying effects on health. Road dust is composed of many particles other than soil dust. It also includes engine exhaust, tire rubber, oil, and truckload spills. DPM contains many toxic particle and elemental carbon (soot) and is considered a TAC in California. Airborne particles absorb and adsorb toxic substances and can be inhaled and lodged in the lungs. Once in the lungs, the toxic substances can be absorbed into the bloodstream and carried throughout the body. PM₁₀ concentrations tend to be lower during the winter months because weather greatly affects PM₁₀ concentrations. During rain, concentrations are relatively low, and on windy days, PM₁₀ levels can be high. Photochemical aerosols, formed by chemical reactions with human-made emissions, may also influence PM₁₀ concentrations.

Elevated ambient particulate levels are associated with premature death, an increased number of asthma attacks, reduced lung function, aggravation of bronchitis, respiratory disease, cancer, and other serious health effects. Short-term exposure to particulates can lead to coughing, minor throat irritation, and a reduction in lung function. Long-term exposure can be more harmful. USEPA estimates that 8 percent of urban nonsmoker lung cancer risk is due to PM₁₀ in soot from diesel trucks, buses, and cars. Additional studies by USEPA and the Harvard School of Public Health estimate that 50,000 to 60,000 deaths per year in the United States are caused by particulates. PM₁₀ particles collect in the upper portion of the respiratory system, affecting the bronchial tubes, nose, and throat. They contribute to aggravation of asthma, premature death, increased number of asthma attacks, bronchitis, reduced lung function, respiratory disease, aggravation of respiratory and cardiovascular disease, alteration of lung tissue and structure, changes in respiratory defense mechanisms, and cancer (VCAPCD 2003).

Fine Particulate Matter, 2.5 Microns

PM_{2.5} is a mixture of particulate matter, fine dusts and aerosols, 2.5 microns or smaller in aerodynamic diameter. PM_{2.5} can enter the deepest portions of the lungs where gas exchange occurs between the air and the blood stream. They are the most dangerous particles because the lungs have no efficient mechanisms for removing them. If these particles are soluble in water, they pass directly into the blood

stream within minutes. If they are not soluble in water, they are retained deep in the lungs and can remain there permanently, which increases the risks of long-term disease including chronic respiratory disease, cancer, and increased and premature death. Other effects include increased respiratory stress and disease, decreased lung function, alterations in lung tissue and structure, and alterations in respiratory tract defense mechanisms.

PM_{2.5} particles are emitted from activities such as industrial and residential combustion processes, wood burning, and from diesel- and gasoline-powered vehicles. They are also formed in the atmosphere from gases such as SO₂, NO_x, ammonia, and VOCs that are emitted from combustion activities and then become particles as a result of chemical transformations in the air (secondary particles) (VCAPCD 2003).

3.3.3.3 Sources of Air Pollutants

The most significant regional O₃, NO₂, and CO sources in ambient air are automobiles, trucks, and other on-road vehicles, along with trains, vessels, and aircraft. O₃ is not directly emitted; rather, photochemical O₃ is formed by the atmospheric reaction of VOCs and NO_x in sunlight. Gasoline and diesel engines emit VOCs and NO_x as combustion products, as does natural gas-fired equipment (stationary sources) such as pump engines, gas turbine generators, process heaters, and steam boilers. Vehicle emissions from traffic along State Route (SR)-78, SR-86, SR-111, and other roadways are the greatest contributors to local pollutants.

Local PM₁₀ emissions are primarily the result of fugitive dust from travel on unpaved roads, as well as construction and agricultural activities. Coarser particles also may be emitted from activities that disturb the topsoil. Other sources include wind-blown dust, pollen, salts, brake dust, and tire wear. Although PM_{2.5} is a subset of PM₁₀, it differs from the rest of PM₁₀. While most of the ambient PM₁₀ results from direct emissions of the pollutant, a significant amount of the ambient PM_{2.5} results from transformation of precursors and condensing of gaseous pollutants in the atmosphere. Other than direct PM_{2.5} emissions, the key pollutants contributing to PM_{2.5} concentrations in the atmosphere are SO₂, NO_x, VOCs, and ammonia (CARB 2005). The most prevalent airborne pollutant in the Salton Sea Air Basin is particulate matter as fugitive dust. Within the Basin, fugitive windblown dust, wind erosion of exposed soil (from agricultural fields and the desert), and vehicle travel over unpaved roads are the major PM₁₀ sources (DWR and DFG 2007).

3.3.3.4 Ambient Air Quality

Air quality is affected by a variety of sources in the Project vicinity. Industry in the vicinity includes geothermal power plants, but processes here do not result in heavy emissions of pollutants. Light motor vehicles, diesel-powered construction equipment, and commercial trucks used in the Project area are the most common source of pollutants. Noncombustion PM₁₀ and PM_{2.5} sources include fugitive dust from roads, construction, demolition, and earthmoving. Finally, commercial and general aviation aircraft generate emissions that affect air quality. The Salton Sea Air Basin has high levels of ground-level O₃, transported into the Basin from urban areas to the west and northwest of the Basin. Vehicles, trains, construction equipment, and farming equipment are the primary O₃ precursor emission sources (NO_x and ROG) in the Basin (CARB 2006).

O₃ is a secondary pollutant that is not emitted directly by sources, but rather is formed by a reaction between NO_x and reactive organic compounds in the presence of sunlight. Reductions in O₃ concentrations are dependent upon reducing emissions of these precursors. The major O₃ precursor sources in the Salton Sea Air Basin are motor vehicles and other mobile equipment (including agricultural equipment), and nonelectric agricultural water pumping.

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ICAPCD and SCAQMD operate extensive regional air monitoring networks comprised of monitoring stations that collectively measure the ambient concentrations of criteria air pollutants including O₃, NO₂, SO₂, CO, PM₁₀, and PM_{2.5}.

Tables 3.3-4, 3.3-5, and 3.3-6 show a 10-year summary of monitoring data (2000 to 2009) obtained for the Salton Sea Air Basin for O₃, PM₁₀, and PM_{2.5}, respectively.

| Table 3.3-4 Salton Sea Air Basin Ozone Exceedances (2000 to 2009) | | | | | | | | | |
|---|---------------------|--------|----------|-----------------|----------|-----------------|----------|----------|---------|
| Year | Days Over Standards | | | 1-Hour Maximums | | 8-Hour Averages | | | |
| | State | | National | State Max | State DV | State Max | State DV | Nat. Max | Nat. DV |
| | 1-hour | 8-hour | 8-hour | ppmv | ppmv | ppmv | ppmv | ppmv | 1-hour |
| 2009 | 40 | 82 | 59 | 0.150 | 0.120 | 0.098 | 0.102 | 0.098 | 0.096 |
| 2008 | 36 | 85 | 57 | 0.135 | 0.120 | 0.101 | 0.105 | 0.101 | 0.097 |
| 2007 | 39 | 99 | 68 | 0.126 | 0.130 | 0.102 | 0.116 | 0.102 | 0.101 |
| 2006 | 51 | 94 | 72 | 0.129 | 0.130 | 0.109 | 0.116 | 0.109 | 0.102 |
| 2005 | 54 | 102 | 77 | 0.139 | 0.130 | 0.116 | 0.116 | 0.116 | 0.104 |
| 2004 | 48 | 108 | 71 | 0.125 | 0.130 | 0.107 | 0.120 | 0.106 | 0.104 |
| 2003 | 66 | 101 | 77 | 0.144 | 0.160 | 0.110 | 0.120 | 0.110 | 0.108 |
| 2002 | 68 | 117 | 92 | 0.156 | 0.160 | 0.125 | 0.120 | 0.124 | 0.105 |
| 2001 | 81 | 111 | 86 | 0.167 | 0.160 | 0.114 | 0.114 | 0.113 | 0.100 |
| 2000 | 54 | 100 | 70 | 0.169 | 0.140 | 0.114 | 0.114 | 0.113 | 0.099 |
| Total | 537 | 999 | 729 | | | | | | |
| Source: CARB 2010d | | | | | | | | | |
| Note: | | | | | | | | | |
| DV = State Designation Value or National (Nat.) Design Value as applicable. | | | | | | | | | |

Table 3.3-5 Salton Sea Air Basin PM₁₀ Exceedances (2000 to 2009)

| Year | Estimated Days Over Standards | | Annual Averages | | 3-Year Averages | | 24-Hour Maximums | |
|---|-------------------------------|-------|-----------------|-------|-----------------|-------|------------------|-------|
| | | | National | State | National | | National | State |
| | National | State | µg/m³ | µg/m³ | National | State | µg/m³ | µg/m³ |
| 2009 | ND | 207 | ND | 65 | ND | 66 | 276 | 266 |
| 2008 | ND | 187 | 54 | 54 | 59 | 66 | 337 | 138 |
| 2007 | ND | 219 | 66 | 66 | 60 | 72 | 291 | 296 |
| 2006 | ND | 241 | 71 | 72 | 57 | 72 | 248 | 261 |
| 2005 | ND | 160 | 53 | 53 | 65 | 80 | 211 | 220 |
| 2004 | ND | 220 | 61 | 60 | 74 | 81 | 201 | 195 |
| 2003 | ND | 284 | 80 | 80 | 82 | 87 | 840 | 848 |
| 2002 | ND | 305 | 80 | 81 | 86 | 87 | 373 | 361 |
| 2001 | ND | 312 | 86 | 87 | 85 | 87 | 647 | 634 |
| 2000 | ND | 313 | 95 | 85 | 79 | 85 | 268 | 279 |
| Total | ND | 2448 | | | | | | |
| Source: CARB 2010d | | | | | | | | |
| Note: | | | | | | | | |
| ND = No Data or Insufficient Data for determination | | | | | | | | |

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Table 3.3-6 Salton Sea Air Basin PM_{2.5} Exceedances (2000 to 2009)

| Year | Annual Averages | | | | 2006 National 24-Hour Standard | | | 24-Hour Maximums | |
|---|-------------------|-------------------|-------------------|-------------------|--------------------------------|-------------------|---------------------|-------------------|-------------------|
| | National | Nat. DV | State | State DV | 98 th % | Nat. DV | Estimated Days Over | National | State |
| | µg/m ³ | µg/m ³ | µg/m ³ | µg/m ³ | µg/m ³ | µg/m ³ | | µg/m ³ | µg/m ³ |
| 2009 | 8.0 | 7.4 | 18.7 | 23.0 | 39.9 | 34.0 | 3 | 45.0 | 100.9 |
| 2008 | 8.3 | ND | 17.2 | 23.0 | 24.0 | 36.0 | 0 | 37.1 | 93.6 |
| 2007 | 13.0 | 8.9 | 23.2 | 23.0 | 38.5 | 42.0 | 9 | 66.7 | 95.0 |
| 2006 | 12.5 | 9.3 | 17.3 | 17.0 | 46.0 | 40.0 | 17 | 68.8 | 80.8 |
| 2005 | 9.4 | 9.4 | 15.5 | 16.0 | 41.1 | 39.0 | 3 | 67.6 | 85.2 |
| 2004 | 11.8 | 11.3 | 16.1 | 16.0 | 31.9 | 40.0 | 4 | 74.2 | 76.0 |
| 2003 | 11.4 | 11.8 | 11.4 | 15.0 | 44.3 | 46.0 | 0 | 65.1 | 153.6 |
| 2002 | 15.1 | 15.6 | 15.1 | 15.0 | 44.1 | 50.0 | 19 | 46.5 | 142.7 |
| 2001 | 14.9 | 15.7 | ND | 11.0 | 50.4 | 49.0 | 3 | 60.2 | 60.2 |
| 2000 | 16.9 | ND | 11.2 | 11.0 | 56.0 | ND | 21 | 84.2 | 84.2 |
| Total | | | | | | | 79 | | |
| Source: CARB 2010d | | | | | | | | | |
| Notes: | | | | | | | | | |
| ND = No Data or Insufficient Data for determination; DV = State Designation Value or National (Nat.) Design Value as applicable | | | | | | | | | |

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3.3.3.5 Attainment Status Designations

Current California and Federal attainment status designations are listed in Table 3.3-7 for the Salton Sea Air Basin.

| Table 3.3-7 Federal and California Air Quality Attainment Status Designations for the Salton Sea Air Basin | | |
|---|---|--------------------------------------|
| Criteria Pollutant | State Designation | Federal Designation |
| Ozone (O ₃) (1-hour) | Moderate/Extreme Nonattainment ^c | n/a |
| Ozone (O ₃) (8-hour) | Nonattainment | Moderate Nonattainment ^a |
| Nitrogen Dioxide (NO ₂) (1-hour) | Attainment | Attainment |
| Nitrogen Dioxide (NO ₂) (annual) | Attainment | Attainment |
| Sulfur Dioxide (SO ₂) | Attainment | Attainment/Unclassified ^d |
| Carbon Monoxide (CO) | Attainment | Attainment |
| Resp. Particulates (as PM ₁₀) (24-hour) | Serious Nonattainment | Serious Nonattainment |
| Resp. Particulates (as PM ₁₀) (annual) | Nonattainment | n/a |
| Fine Particulates (as PM _{2.5}) (24-hour) | n/a | Nonattainment |
| Fine Particulates (as PM _{2.5}) (annual) | Unclassified ^b | Unclassified ^b |
| Lead (Pb) | Attainment | Attainment |
| Sulfates (as SO ₄) | Attainment | (no Federal standard) |
| Hydrogen Sulfide (H ₂ S) | Unclassified ^b | (no Federal standard) |
| Vinyl Chloride (C ₂ H ₃ Cl) | n/d | (no Federal standard) |
| Visibility | Unclassified | (no Federal standard) |
| Sources: CARB 2010d; ICAPCD 2010b Notes: ^a The 0.08 ppmv Federal 8-hour O ₃ standard applied until 2008; 0.075 ppmv thereafter ^b If available data do not support a designation of attainment or nonattainment, the area is designated unclassified ^c Moderate in Imperial County (ICAPCD), Extreme in Riverside County (SCAQMD) ^d Attainment in Imperial County (ICAPCD), Unclassified in Riverside County (SCAQMD) n/a = not applicable n/d = no data/information | | |

Imperial County Attainment Status and Applicable Plans

Imperial County is designated as moderate nonattainment for the Federal 8-hour O₃ NAAQS. The Imperial Valley (which is the Imperial County portion of the Salton Sea Air Basin) is designated as Federal serious nonattainment area for PM₁₀ and nonattainment for PM_{2.5}. All areas of the County are designated as attainment for CO, NO₂, and SO₂ NAAQS. Imperial County is designated as nonattainment for O₃ and PM₁₀ CAAQS. The entire County is designated attainment or unclassified for PM_{2.5}, CO, NO₂, and SO₂ CAAQS.

In 2003, the Federal Ninth Circuit Court of Appeals determined that USEPA's conclusion that PM₁₀ attainment would be achieved, except for the negative effects of transborder emissions from Mexico, was

1 unsupported. The court required USEPA to reclassify Imperial Valley from moderate to serious
2 nonattainment (Opinion No. 01-71902, October 9, 2003) (U.S. Department of Energy and Bureau of Land
3 Management 2004). In addition to emissions transported from Mexico, particulate matter emissions in
4 Imperial County result from agricultural activity and other local sources. The primary sources include
5 windblown dust from natural and disturbed land areas and dust associated with vehicles using paved and
6 unpaved roads. Construction and agriculture also affect ambient particulate levels.

7 As part of USEPA's final ruling, a Reasonably Available Control Technology (RACT) demonstration
8 was also required. RACTs are emission control technologies that are economically and technically
9 feasible. In compliance with this requirement, ICAPCD released the *2009 Reasonable Available Control*
10 *Technology (RACT) State Implementation Plan* (ICAPCD 2010a).

11 As a result of the area's designation as Federal serious nonattainment for PM₁₀, ICAPCD has prepared a
12 number of documents and regulations to support an update of the existing SIP for PM₁₀ in the Imperial
13 Valley. In May 2004, ICAPCD published *Development of a Wind Blown Fugitive Dust Model and*
14 *Inventory for Imperial County, California*, Final Report (ICAPCD 2004). In August 2005, ICAPCD
15 released their *Imperial County Natural Events Action Plan* (IPAQCD 2005, as cited in DWR and DFG
16 2007), to allow exclusion of certain qualifying natural events from attainment, to allow exclusion of
17 certain qualifying natural events from attainment determinations and the *Draft Final Technical*
18 *Memorandum Regulation VIII Best Available Control Measures Analysis* was published in October 2005,
19 and used as the basis for rulemaking for regulations to control particulate matter (ICAPCD 2005). In
20 November 2005, ICAPCD's Board adopted a new series of Regulation VIII rules for dust control (general
21 requirements, construction and earthmoving activities, bulk materials, open areas, and conservation
22 management practices), which are required for all projects.

23 Based on USEPA and CARB comments on the 2004 dust inventory, a revised emissions inventory was
24 published as an appendix to the October best available control measures analysis: *Appendix A Technical*
25 *Memorandum: Latest Revisions of the Windblown Dust Study* (ICAPCD 2005). ICAPCD has prepared
26 their emissions inventory and best available control measures rulemakings in advance of the development
27 and approval of a SIP, to expedite best available control measures emissions reductions.

28 In August 2009, ICAPCD released the *2009 Imperial County State Implementation Plan for Particulate*
29 *Matter Less than 10 Microns in Aerodynamic Diameter* (ICAPCD 2009). This document presents the SIP
30 for PM₁₀ on ICAPCD's behalf.

31 On December 3, 2009, USEPA issued a final ruling determining that the Imperial County moderate 8-
32 hour O₃ attainment area attained the 1998 8-hour standard. Because this determination does not constitute
33 a redesignation to attainment under CAA section 107(d)(3), the designation will remain moderate
34 nonattainment for the 1997 8-hour O₃ standard (ICAPCD 2010b). ICAPCD submitted a *Final 2009 8-*
35 *Hour Ozone Modified Air Quality Management Plan* in July 2010 to USEPA, in compliance with Federal
36 regulations (ICAPCD 2010b). This AQMD serves as a comprehensive planning document intended to
37 provide guidance to ICAPCD, county, and other local agencies on how to continue to maintain the 1997
38 8-hour O₃ NAAQS (ICAPCD 2010b).

39 3.3.3.6 Regional Emissions Inventory

40 In the Salton Sea Air Basin, O₃ and PM₁₀ are the primary pollutants of concern based on the exceedance
41 of ambient air quality standards. O₃ is a seasonal problem resulting from photochemical reactions of
42 ROG_s and NO_x in the presence of sunlight, occurring predominantly from May through October.

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- 1 Table 3.3-8 presents the annual average daily emissions rates for the estimated 2008 regional emissions
 2 inventory for the Salton Sea Air Basin, as compiled by CARB (2010d).

Table 3.3-8 Estimated 2008 Regional Emissions Inventory – Annual Average Daily Emissions Rates for All Sources in Salton Sea Air Basin

| Air Basin | Criteria Pollutant | | | | |
|----------------------|--------------------|------------------|----------|----------|-----------------|
| | NO _x | PM ₁₀ | CO | VOCs | SO ₂ |
| | tons/day | tons/day | tons/day | tons/day | tons/day |
| Salton Sea Air Basin | 83.3 | 250.9 | 176.2 | 48.1 | 0.7 |
| Source: CARB 2010d | | | | | |

- 3
- 4 The most prevalent airborne pollutant in the Salton Sea Air Basin is particulate matter in the form of
 5 fugitive dust. In the Basin, fugitive windblown dust, wind erosion of exposed soil (from agricultural fields
 6 and the desert), and vehicle travel over unpaved roads are the major PM₁₀ sources.
- 7 Table 3.3-9 summarizes the 2008 estimated annual average emissions (in tons/day) for the Salton Sea Air
 8 Basin for each of the major PM₁₀ emission source categories. Imperial County and Riverside County
 9 contributions are shown (CARB 2010a, b, c).

Table 3.3-9 Estimated 2008 Annual Average Daily PM₁₀ Emissions in the Salton Sea Air Basin

| PM ₁₀ Emission Source | Imperial County | Riverside County | Total Salton Sea Air Basin |
|--|-----------------|------------------|----------------------------|
| | tons/day | tons/day | tons/day |
| Farming operations | 10.37 | 1.03 | 10.75 |
| Construction and demolition | 2.01 | 25.94 | 10.99 |
| Paved road dust | 4.55 | 19.82 | 7.38 |
| Unpaved road dust | 34.94 | 7.3 | 36.87 |
| Fugitive windblown dust | 172.60 | 2.97 | 174.05 |
| Total all sources in basinwide inventory | 232.21 | 72.39 | 250.93 |
| Source: CARB 2010a, b, c | | | |

10 3.3.3.7 Sensitive Receptors

- 11 Certain population groups are considered more sensitive to air pollutants than others; in particular,
 12 children, elderly, and acutely ill and chronically ill persons, especially those with cardiorespiratory
 13 diseases such as asthma and bronchitis. Sensitive receptors (land uses) indicate locations where such
 14 individuals are typically found, namely schools, day care centers, hospitals, convalescent homes,
 15 residences of sensitive persons, and parks with active recreational uses, such as youth sports.

Persons engaged in strenuous work or physical exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions than commercial and industrial areas, because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions. Recreational uses such as parks are also considered sensitive due to the greater exposure to ambient air quality conditions, and because the presence of pollution detracts from the recreational experience.

Imperial County is a predominantly rural, agricultural region, and population in its unincorporated areas tends to concentrate in agricultural areas and in recreational/retirement communities. Communities located on the Sea's shores, including Salton City, Salton Sea Beach, and Bombay Beach are primarily recreational communities, though increasingly their populations are becoming more diversified. These communities experience a notable increase in population during the winter months when visitors converge to avoid cold/wet winters in other parts of the country (County of Imperial 2008).

Red Hill Park is located immediately north of Sonny Bono Salton Sea National Wildlife Refuge adjacent to the Alamo River's mouth. The site supports picnic facilities offshore from the Salton Sea and a campground with RV hookups and additional picnic facilities (located on Red Hill Island's northern and eastern sides). Two of the trailers/RVs parked in the campground currently are occupied by long-term residents rather than short-term visitors (personal communication, K. Mercurio 2011). These residents are located approximately 1.5 miles from the area of potential impact.

Other receptors in the Project area include recreational users (such as campers, hunters, fishers, and birdwatchers); farm workers and residents at nearby farms; employees at the geothermal plants; and commuters/travelers on SR-86 between the intersection of SR-78 and Vendel Road. The most concentrated populations occur near the Sea's northern and southern shores.

3.3.3.8 Odor Conditions

The fairly continuous presence of odors at the Salton Sea currently affects both visitor and resident populations in the area. Factors contributing to odors at the Sea include water quality, high nutrient levels, and biological factors such as fish, algal, and bird mortality. The Sea's water quality is affected by a high concentration of sulfates and other compounds present in the saline Sea, as well as inputs of agricultural drainage. Nutrient-rich runoff entering the Sea produces eutrophic conditions that result in phytoplankton blooms. These microscopic plants float close to the Sea's surface, and offensive odors are created when large numbers of plants die and decompose. Odors resulting from algal bloom die-offs are most prevalent during the summer months, when inputs of freshwater to the Sea are low and temperatures are high (Salton Sea Authority and Bureau of Reclamation 2000).

Fish and bird die-offs at the Salton Sea also contribute to the odor problem. Several large die-offs in the past 2 decades have produced unpleasant odors as fish and birds decompose along the shoreline (Salton Sea Authority and Bureau of Reclamation 2000).

Odors produced by decaying algal blooms and fish and bird die-offs occur predominantly in the Salton Sea's southern and eastern portions, although all the Sea's areas are subject to these occurrences. The most prevalent odors exist during the summer months when temperatures are high and winds from the southeast are predominant. High winds in the Sea's area are most frequent during the months of April and May (Salton Sea Authority and Bureau of Reclamation 2000).

3.3.4 Impacts and Mitigation Measures

The following analysis estimates criteria emissions resulting from operation of construction equipment, passenger vehicle trips during construction and operation, transportation of construction materials and

equipment, and transportation of material inputs for operation or maintenance, and waste generation and disposal of materials during construction and operation (included in trucking).

3.3.4.1 Impact Analysis Methodology

Impacts on air quality would result from engine exhaust and fugitive dust (particulate) emissions of criteria pollutants caused by operation of off-road construction equipment and on-road vehicles, as well as by equipment proposed during Project operation. Detailed lists of construction equipment, anticipated construction schedules, operational equipment, and emission calculations are provided in Appendix G.

Emission calculations for off-road equipment and on-road vehicles were performed using the most recent emission factors published by SCAQMD (1993, updated in 2008)⁸ and USEPA (2006, updated in 2011). Construction is expected to require about 2 years beginning in 2013, although potential delays related to weather, protection of sensitive resources, material delivery, and unforeseen underground conditions could occur. Extending the schedule longer than 2 years would not affect the air quality analysis because it is based on maximum daily emissions (pounds per day) and total emissions (tons), which would remain relatively unchanged. Since annual emissions would be below General Conformity thresholds, extending the schedule longer than 2 years would not affect the General Conformity determination.

Air quality impacts were assessed using significance thresholds established by ICAPCD for nonattainment pollutants and USEPA for attainment pollutants, which are listed in Table 3.3-10. General Conformity thresholds are listed in Table 3.3-11. The greatest potential for impacts would occur during the construction activities that result in ground disturbances (earthmoving), which causes fugitive dust to be entrained in the wind.

Table 3.3-10 Emissions Significance Thresholds - Salton Sea Air Basin Nonattainment Area

| Criteria Pollutant | Imperial County APCD | |
|---|----------------------|-----------|
| | Construction | Operation |
| | lbs/day | lbs/day |
| Volatile Organic Compounds (VOC as CH ₄) | 75 | 55 |
| Carbon Monoxide (CO) | 550 | 550 |
| Oxides of Nitrogen (NO _x as NO ₂) | 100 | 55 |
| Sulfur Dioxide (SO _x as SO ₂) | -- | 150 |
| Particulates (PM ₁₀) | 150 | 150 |
| Particulates (PM _{2.5}) | -- | -- |
| Lead (Pb)* | -- | -- |
| Sources: SCAQMD 1993, updated in 2008; ICAPCD 2007; 40 CFR section 51.166 | | |
| Note: | | |
| * Prevention of Significant Deterioration (PSD): 0.6 tons per year lead | | |

⁸ ICAPCD does not publish its own emission factors per se; SCAQMD's off-road factors are based on Federal standards pursuant to 40 CFR 89.112; SCAQMD on-road factors are based on 40 CFR 86 et seq. vehicle category standards; SCAQMD's factors are output from CARB's OFFROAD and EMFAC applications, respectively, which reference the cited regulations.

Table 3.3-11 Emissions Significance Thresholds - General Conformity

| Criteria Pollutant | Federal Nonattainment Status | | | |
|---|------------------------------|-----------|-----------|-----------|
| | Moderate | Serious | Severe | Extreme |
| | tons/year | tons/year | tons/year | tons/year |
| Volatile Organic Compounds (VOCs as CH ₄) | n/a | 50 | 25 | 10 |
| Carbon Monoxide (CO) | 100 | | | |
| Oxides of Nitrogen (NO _x as NO ₂) | n/a | 50 | 25 | 10 |
| Sulfur Dioxide (SO _x as SO ₂) | 100 | | | |
| Particulates (PM ₁₀) | 100 | 70 | n/a | n/a |
| Particulates (PM _{2.5}) | 100 | | | |
| Lead (Pb)* | 25 | | | |
| Source: 40 CFR 6, 51, & 93 (58 Federal Register (FR) 63214) | | | | |
| Notes: | | | | |
| Other O ₃ nonattainment areas outside an O ₃ transport region, VOCs or NO _x : 50 tons/year | | | | |
| Other O ₃ nonattainment areas inside an O ₃ transport region, VOCs: 50 tons/year | | | | |
| Other O ₃ nonattainment areas inside an O ₃ transport region, NO _x : 100 tons/year | | | | |

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3.3.4.2 Thresholds of Significance

Significance Criteria

Impacts on air quality would be significant if the SCH Project would:

- Conflict with or obstruct implementation of an applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable/significant net increase in any criteria pollutant for which the alternative's region of influence is nonattainment under an applicable Federal or state ambient air standard (including releasing emissions that exceed quantitative thresholds for O₃ precursors);
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people.; or
- Substantially modify the existing microclimate characteristics adjacent to the Salton Sea.

To assess a project's impact relative to the significance criteria established by CEQA, the ICAPCD has established air quality significance thresholds to determine whether air quality impacts from a project would be significant. If emissions would exceed any of the criteria listed in Table 3.3-10, they would be considered significant. For uniformity within the Salton Sea Air Basin, the ICAPCD criteria are essentially the same as the SCAQMD criteria.

ICAPCD has also defined significance thresholds for TACs or health effects. TAC emissions would be significant if the emissions exceeded acceptable levels or contributed significantly to the area's excess lifetime cancer risk values, cancer burden, or health hazard indices.

Application of Significance Criteria

- **Conflict with or obstruct implementation of an applicable air quality plan** – The Project alternatives would generate criteria pollutant emissions through fuel combustion resulting from construction activities, emissions from the transportation of goods and other materials to the sites, and workers traveling in vehicles to and from the sites during both construction and operation. During operation the Project would result in criteria air pollutant emissions from vehicles and earthmoving required for maintenance. The potential for these emissions to conflict with or obstruct applicable ICAPCD air quality plans is addressed, as is the potential for changes in Salton Sea elevation to result in increased fugitive dust emissions from exposed playa.
- **Violate any air quality standard or contribute substantially to an existing or projected air quality violation** – The Project alternatives would generate criteria pollutant emissions through fuel combustion resulting from construction activities, emissions from the transportation of goods and other materials to the sites, and workers traveling in vehicles to and from the sites during both construction and operation. During operation the Project would result in criteria air pollutant emissions from vehicles and earthmoving required for maintenance. The analysis includes a determination of whether these emissions would result in violation of an air quality standard or worsen an existing violation within the Salton Sea Air Basin.
- **Result in a cumulatively considerable/significant net increase in any criteria pollutant for which the alternative's region of influence is nonattainment** – The Project alternatives would generate criteria pollutant emissions through fuel combustion resulting from construction activities, emissions from the transportation of goods and other materials to the sites, and workers traveling in vehicles to and from the sites during both construction and operation. During operation, the Project would result

in criteria air pollutant emissions from vehicles and earthmoving required for maintenance. The potential for these activities to result in a cumulatively considerable/significant increase in any nonattainment criteria pollutant is addressed.

- **Expose sensitive receptors to substantial pollutant concentrations** – The Project alternatives would generate criteria pollutant emissions through fuel combustion resulting from construction activities, emissions from the transportation of goods and other materials to the sites, and workers traveling in vehicles to and from the sites during both construction and operation. During operation the Project would result in criteria air pollutant emissions from vehicles and earthmoving required for maintenance. The potential for these emissions, including toxic air contaminants, to result in exposure of sensitive receptors is addressed.
- **Create objectionable odors affecting a substantial number of people** – The potential for odors to result from construction or maintenance is addressed, as is the potential for odors to occur as a result of pond operations.
- **Substantially modify the existing microclimate characteristics adjacent to the Salton Sea** – The potential for the Project alternatives to modify the Sea's microclimate through pond creation is addressed below.

Emissions from the Project alternatives were compared to the ICAPCD significance thresholds shown in Table 3.3-10 above.

3.3.4.3 No Action Alternative

The description of the No Action Alternative in the *Salton Sea Ecosystem Restoration Program Final Programmatic Environmental Impact Report* (DWR and DFG 2007) is applicable to this analysis and is summarized below. Several major variables are at play, each with varying degrees of uncertainty. These variables include future population growth in the region, the extent of various emissions sources, emissivity of each source, and the success of the local jurisdictions and others in implementing effective air emissions control measures over the coming decades. Pollutant transport from Mexico also influences air quality compliance in the region.

The two most substantial changes are related to implementation of the Quantification Settlement Agreement (QSA) and the ongoing development and implementation of AQMPs and SIPs.

Quantification Settlement Agreement Implementation

QSA Implementation and the related Imperial Irrigation District (IID) Water Conservation and Transfer Project would reduce inflows to the Salton Sea, resulting in an increase in the amount of playa exposed over the next 75 years. The IID Water Conservation and Transfer Project Environmental Impact Statement/Report (EIS/EIR) and addendum projected an increase in exposed playa of about 45,000 acres over the 75-year period compared to the future baseline for that project.

To mitigate the potential air quality impacts from exposed playa, the IID Water Conservation and Transfer Project Mitigation Monitoring and Reporting Plan included a four-step air quality mitigation and monitoring plan (four-step air quality plan), as summarized below:

1. **Restrict Access.** Public access, especially off-highway vehicle access, would be limited, to the extent legally and practicably feasible, to minimize disturbance of natural crusts and soils surfaces in future exposed shoreline areas. Prevention of crust and soil disturbance is viewed as the most important and cost-effective measure available to avoid future dust impacts. IID or other governmental entities own or control most of the lands adjacent to and under the Salton Sea. Fencing and posting would be installed on these lands in areas adjacent to private lands or public areas to limit access.

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- 1 2. **Research and Monitor.** A research and monitoring program would be implemented incrementally as
2 the Salton Sea recedes. The research phase would focus on development of information to help define
3 the potential for problems to occur in the future as the Sea's elevation is reduced slowly over time.
4 Research would accomplish the following:
- 5 a. Study historical information on dust emissions from exposed shoreline areas.
- 6 b. Determine how much land would be exposed over time and who owns it.
- 7 c. Conduct sampling to determine the composition of "representative" shoreline sediments and
8 the concentrations of ions and minerals in salt mixtures at the Salton Sea. Review results
9 from prior sampling efforts. Identify areas of future exposed shoreline with elevated
10 concentrations of toxic substances relative to background.
- 11 d. Analyze to predict response of Salton Sea salt crusts and sediments to environmental
12 conditions, such as rainfall, humidity, temperature, and wind.
- 13 e. Implement a meteorological, PM₁₀, and TAC monitoring program to begin under existing
14 conditions and continue as the IID Water Conservation and Transfer Project is implemented.
15 Monitoring would take place both near the sources (exposed shoreline caused by the Project)
16 and near the receptors (populated areas) to assess the source receptor relationship. The goal of
17 the monitoring program would be to observe PM₁₀ problems or incremental increases in TAC
18 concentrations associated with the increased exposure of Seabed to provide a basis for
19 mitigation efforts.
- 20 f. If incremental increases in TACs (such as arsenic or selenium, for example) are observed at
21 the receptors and linked to emissions from exposed shoreline, conduct a health risk
22 assessment to determine whether the increases exceed acceptable thresholds established by
23 the governing air districts and represent a significant impact.
- 24 g. If potential PM₁₀ or health effects problem areas are identified through research and
25 monitoring and the conditions leading to PM₁₀ emissions are defined, study potential dust
26 control measures specific to the identified problems and the conditions at the Salton Sea.
- 27 3. **Create or Purchase Offsetting Emission Reduction Credits.** This step would require negotiations
28 with the local air pollution control districts to develop a long-term program for creating or purchasing
29 offsetting PM₁₀ emission reduction credits. Credits would be used to offset emissions caused by the
30 IID Water Conservation and Transfer Project, as determined by monitoring (see Step 2, above).
- 31 4. **Direct Emission Reductions at the Salton Sea.** If sufficient offsetting emission reduction credits are
32 not available or feasible, Step 4 of this mitigation plan would be implemented. It would include either
33 one or a combination of the following:
- 34 a. Implementing feasible dust mitigation measures. These mitigation measures include the
35 potential implementation of new (and as yet unknown or unproven) dust control technologies
36 that may be developed at any time during the term of the IID Water Conservation and
37 Transfer Project Proposed Project.
- 38 b. If feasible, supplying water to the Salton Sea to rewet emissive areas exposed by the IID
39 Water Conservation and Transfer Project, based on the research and monitoring program
40 (Step 2 of this plan). This approach could use and extend the duration of the Salton Sea
41 Habitat Conservation Strategy. If, at any time during the Project term, feasible dust mitigation
42 measures are identified, they could be implemented in lieu of other dust mitigation measures
43 or the provision of mitigation water to the Salton Sea. Thus, it is anticipated that the method
44 or combination of methods could change from time to time over the Project term.

1 The No Action Alternative includes implementation of this four-step air quality plan.

2 The enforcement, monitoring, and funding of implementation of the four-step air quality plan is
3 established under a set of related documents, permits, agreements, and laws as described below.

4 ***IID Water Conservation and Transfer Project EIS/EIR, Addendum, and Mitigation,***
5 ***Monitoring, and Reporting Program***

6 These documents, prepared by IID, describe the four-step air quality plan as mitigation for the impacts of
7 exposing playa due to the reduction of inflows to the Salton Sea incidental to the transfer of water.
8 However, note that even with this plan's implementation, the EIS/EIR for the IID Water Conservation
9 and Transfer Project concluded that the air quality impact resulting from this project would be potentially
10 significant and unavoidable.

11 Mitigation requirements for emissions resulting from exposed acres under the IID Water Conservation
12 and Transfer Project were not for a specific number of acres, any specific location(s), or a specific Salton
13 Sea elevation.

14 ***State Water Resources Control Board Order***

15 As a responsible agency for the IID Water Conservation and Transfer Project, the State Water Resources
16 Control Board (SWRCB) acknowledged and accepted the incremental implementation of the four-step air
17 quality plan to mitigate potential air quality impacts from the exposed playa through SWRCB Order
18 2002-0013). To develop an adequate baseline, the SWRCB Order requires that Step 2 of the plan,
19 research and monitoring, be implemented within 6 months of the effective date of the approval –
20 December 20, 2002. Further, the SWRCB Order stated that ICAPCD and SCAQMD have jurisdiction
21 over different parts of the Salton Sea geographical region. The SWRCB Order delegated to the Chief of
22 the Division of Water Rights the authority to determine, in consultation with ICAPCD, SCAQMD, and
23 CARB, whether any mitigation measure identified as part of the four-step plan is feasible. With
24 implementation of the feasible mitigation measures, the SWRCB stated that they believe that the impacts
25 to air quality due to exposed shoreline would be less than significant. Nonetheless, the Final EIS/EIR
26 states that dust emissions from shoreline exposure are a potentially significant, unavoidable impact. The
27 SWRCB Order concludes that IID could mitigate the air quality impacts to less-than-significant levels.
28 However, to the extent that impacts are unmitigable and unavoidable, the SWRCB found that the critical
29 importance of a reliable Colorado River water supply outweighs the impacts. The SWRCB Order also
30 specified that IID must comply with all applicable requirements of ICAPCD's and SCAQMD's SIPs and
31 PM₁₀ rules.

32 ***Adoption and Implementation of Air Quality Management Plans and State Implementation***
33 ***Plans***

34 Under existing conditions, ambient air quality standards for several air pollutants are not being achieved
35 in portions of the Salton Sea watershed, as presented earlier in this chapter. In the Salton Sea Air Basin,
36 the air pollutants of greatest concern are O₃ and the O₃ precursors, NO_x, VOCs, and PM₁₀. O₃ and
37 O₃precursors are primarily generated from vehicle and equipment exhaust. PM₁₀ is generated primarily
38 from soil disturbance and wind erosion (fugitive dust). Agricultural operations and transport of pollutants
39 from Mexico also affect air quality in the area.

40 For areas not meeting standards, the responsible air districts must prepare plans with control measures
41 sufficient to attain national standards by predetermined attainment dates. Once standards are achieved,
42 plans are required to ensure compliance with standards is maintained. Air quality agencies must quantify
43 emissions from existing sources and forecast future emissions to support development of AQMPs and

SIPs. These plans must be consistent with population forecasts and growth assumptions in the applicable county and local general plans.

As noted previously, under the No Action Alternative, emissions from playa under the baseline for the IID Water Conservation and Transfer Project (to -235 feet mean sea level [msl]), plus emissions from the playa exposed due to projects approved after the QSA approval, would not fall under the State of California's QSA-related mitigation responsibilities. These uncontrolled emissions would be the responsibility of the landowners, and may add to air quality issues in the Salton Sea Air Basin. As a result, the AQMPs and SIPs under development would need to include these emissions in the emissions inventories used to support attainment planning in the future. This analysis of air quality conditions under the No Action Alternative assumes that SIPs will be developed and implemented to evaluate and control significant emission sources. It is further assumed that local jurisdictions will be in compliance with their SIPs and that the air basins within the study area will reach attainment for the applicable standards by the legislated deadlines.

Among air pollutants, PM₁₀ is a possible exception to the general assumption of long-term attainment. While it is subject to the SIP process, fugitive windblown dust emissions from vacant lands pose challenges. Unlike concentrated pollutant sources that are more readily identified and controlled, fugitive dust emissions are difficult to detect, locate, regulate, and control. However, it is anticipated that the SIP process will reduce PM concentrations to lower levels, and maintain these levels, by identifying and addressing significant PM sources.

Note that forecasts of future air quality conditions under the No Action Alternative rely upon available air quality planning documents, which typically have a planning horizon of about 5 to 20 years. The study period for the SCH Project is 75 years. While consistency with air quality planning documents is critical, they may have limited value when trying to predict actual air quality conditions in 75 years. In the absence of long-term air quality planning documents, the pollutants and emissions sources described above are expected to continue, and air emissions will very likely increase in the future, along with the forecasted population growth and increased development in the study area. Likewise, air quality planning documents may be expected to evolve as growth and development occur.

3.3.4.4 Description of the No Action Alternative

The No Action Alternative would involve construction and operations and maintenance activities for pupfish channels. Additionally, IID, as mitigation for the IID Water Conservation and Transfer Project, is required to relocate campgrounds, roads, and trails that are currently located adjacent to the Salton Sea at Salton Sea State Recreation Area, as well as boat launches along the shoreline.

Under the No Action Alternative, it is assumed that the IID Water Conservation and Transfer Project four-step air quality plan to identify and control emissions from the exposed playa resulting from the QSA projects would be implemented. Impacts on air quality resulting from the IID Water Conservation and Transfer Project (below -235 feet msl and above -248 feet msl) would be mitigated as described in the EIS/EIR.

Emissions from the playa exposed by projects approved before the IID Water Conservation and Transfer Project, plus emissions from the playa that may be exposed due to projects approved after the QSA approval (above -235 feet msl and below -248 feet msl), are not included in the analysis of impacts of the No Action Alternative, nor would they be included in the QSA-related air quality mitigation. These uncontrolled emissions would be the responsibility of the landowners, and may add to air quality issues in the Salton Sea Air Basin. It is assumed that the landowners would comply with all applicable air quality management requirements. The area that is the responsibility of the landowners is located above the

elevation of -235 feet msl. The area of exposed playa predicted to result from the IID Water Conservation and Transfer Project would be located between -235 feet msl and 248 feet msl.

The following analyses for air quality summarize impacts of facility construction, facility operations and maintenance, fugitive dust emissions associated with exposed playa areas, odorous emissions, and microclimate.

Construction-Related Emissions

Construction of components in the No Action Alternative would result in air emissions such as fugitive dust, and exhaust from the combustion of fossil fuels in equipment and vehicles. Fugitive dust emissions (PM₁₀) from construction were estimated for activities that would disturb dry land and for truck travel on unpaved roadways. Impacts associated with fugitive dust from construction of the components in the No Action Alternative would be greater than under existing conditions. However, as estimated in the PEIR, fugitive dust emissions from construction of components would not exceed the local significance threshold for PM₁₀ from construction, 150 pounds/day, nor would they exceed the annual threshold, 70 tons/year. Construction fugitive dust emissions would lessen over time, as components are completed.

NO_x and diesel PM₁₀ emissions rates were estimated for exhaust from construction equipment (such as bulldozers and excavators) and diesel-fueled trucks. Impacts associated with NO_x and diesel PM₁₀ emissions from construction of the components in the No Action Alternative would be greater than emissions under existing conditions. However, the NO_x emissions would be below the applicable local significance thresholds, 100 pounds/day or 50 tons/year.

Operations and Maintenance-Related Emissions

Operations and maintenance activities have the potential to contribute air emissions such as fugitive dust and exhaust from the combustion of fossil fuels in equipment and vehicles. Emissions were estimated for activities used to operate and maintain the components, such as canals.

Impacts associated with fugitive dust emissions from operations and maintenance of the components in the No Action Alternative would be greater than impacts under existing conditions. PM₁₀ emissions associated with operations and maintenance would be below the applicable local significance thresholds, 150 pounds/day or 70 tons/year.

Impacts associated with NO_x emissions from operations and maintenance of the components in the No Action Alternative would be greater than impacts under existing conditions. The NO_x emissions would be below the applicable local significance thresholds, 55 pounds/day or 50 tons/year.

Impacts associated with fugitive dust from exposed playa in the No Action Alternative would be greater than impacts under existing conditions. Fugitive dust emissions from exposed playa in the near future are not predicted to exceed the local significance thresholds for PM₁₀, 150 pounds/day or 70 tons/year. However, these types of emissions are predicted to continue in later years, and would become even more significant over time, as greater areas of playa are exposed. Even with the implementation of an aggressive air quality management program for dust control, fugitive dust emissions from exposed playa is predicted to eventually exceed the local significance thresholds.

Odorous Emissions

In earlier phases, the No Action Alternative would not be greatly different than existing conditions, with regard to water column stratification and buildup of hydrogen sulfide, ammonia, and other eutrophication by-products that may be released during mixing events. In later phases, the No Action Alternative would result in shallower water bodies, slightly better mixing, and reduction in the amount of anoxic water

produced. In addition, when fish are no longer present in the Salton Sea, odor impacts associated with stratification, followed by summer and fall mixing, would be less than impacts under existing conditions.

Microclimate

Several meteorological and physical parameters have been found to have effects on the weather and climate in the area near a large body of water. These localized effects are referred to as the local microclimate. The microclimate of an area includes evapotranspiration, relative humidity, temperature, precipitable water, rainfall, wind speed and direction, vegetation, and the interaction of these parameters.

Under the No Action Alternative, shallower depths, smaller water surfaces, and higher salinity would affect all of the microclimate parameters near the existing shoreline and, in particular, evapotranspiration. Also, changes in vegetation would likely result from the construction of components and dust control measures. Changes in vegetative cover would also affect evapotranspiration. Existing native and agricultural vegetation immediately adjacent to the existing Salton Sea may also be affected.

By reducing water surfaces, less water is available for microclimatic interactions in the atmosphere. The change in interaction between the water surface and sunlight would result in changes to the microclimate parameters, including reductions in relative humidity, evapotranspiration, precipitable water, and rainfall.

Temperature effects would vary because water acts as an insulator, and reduced inflow results in less water to cover the ground. Dry ground absorbs heat from sunlight faster than water surfaces, thereby increasing air temperatures during daylight hours. Because the ground does not insulate as well as water, temperatures would drop faster at night, resulting in larger diurnal temperature swings, with higher temperatures during the day and potentially lower temperatures at night.

Vegetation would increase under the alternatives in areas where plants are used in air quality management, or where native vegetation or agricultural crops are encouraged to grow. However, native vegetation in some areas immediately adjacent to the Salton Sea may decrease, because less moisture would be available to sustain plant growth.

The No Action Alternative would have an undetermined effect on wind speed and direction. In some cases, wind speed would be reduced in areas where more vegetation is planted. Conversely, wind speed would increase in areas where existing vegetation dies due to decreased water or water vapor availability. As changes in total surface area occur, the local wind patterns could change significantly if the lake breeze circulation is weakened or is no longer driven by the differential heating of the land surface and water surface.

3.3.4.5 Alternative 1 – New River, Gravity Diversion + Cascading Ponds

Construction emissions for each of the Project alternatives are summarized in Tables 3.3-12 to 3.3-15. The calculations assume the implementation of measures required by ICAPCD (2007) to reduce emissions from diesel-powered equipment and vehicles and fugitive dust.

Impact AQ-1: Emissions from Project construction and maintenance are accounted for in applicable air quality plans and would not conflict with or obstruct their implementation (less-than-significant impact). The Project would not conflict with the air quality plans adopted by ICAPCD identified in the above *Imperial County Attainment Status and Applicable Plans* under Section 3.3.4.5 because construction-related emissions (i.e., temporary sources) are accounted for in the emission inventories included in the plans. Similarly, operational emissions would be limited to annual maintenance earthmoving and associated vehicular traffic, which is essentially small-scale reconstruction. Because general estimated Basinwide construction-related emissions are included in ICAPCD's emission

inventories (which, in part, form the basis for the air quality plans cited in under *Imperial County Attainment Status and Applicable Plans*), and because all required emissions reduction measures would be implemented, Project construction activities would not prevent attainment or maintenance of state or Federal O₃ or particulate matter standards within the Salton Sea Air Basin. The Project also would not increase population or vehicle miles traveled beyond projections in local plans. In addition, the Project would not result in the operation of any stationary emissions sources or long-term operation of area or mobile emission sources. Therefore, impacts would be less than significant when compared to both the existing environmental setting and the No Action Alternative.

Impact AQ-2: The SCH ponds would cover more playa than would be exposed as a result of the Project, reducing the potential for wind-blown fugitive dust (beneficial impact). The SCH ponds would cover more playa than would otherwise be exposed as a result of the No Action Alternative throughout the duration of the Project (refer to Section 3.11, Hydrology and Water Quality for additional discussion). By 2077, although Alternative 1 would result in a smaller remnant Sea, the net effect of the alternative would be to cover an additional 940 acres of playa. Thus, the ponds would reduce fugitive dust emissions around the Salton Sea by covering otherwise exposed playa with water. Requirements to reduce PM₁₀ emissions, including fugitive dust emissions at the Salton Sea resulting from actions that are part of the No Action Alternative, are included in the *2009 Imperial County State Implementation Plan for Particulate Matter Less than 10 Microns in Aerodynamic Diameter* (ICAPCD 2009). The Project would be consistent with this plan because more area would be covered than exposed, which would be a beneficial impact when compared to both the existing environmental setting and the No Action Alternative.

Impact AQ-3a: The Project would contribute incrementally to violations of Federal and state O₃, PM₁₀, and PM_{2.5} standards and exceed ICAPCD's NO_x and PM₁₀ thresholds during construction (significant impact). No ambient air quality violations would occur solely due to Project emissions for any pollutant, although the Project would incrementally contribute to existing violations of state and Federal air quality standards for O₃, PM₁₀, and PM_{2.5} during construction (Tables 3.3-12, 3.3-13, and 3.3-14). These contributions would occur primarily through diesel engine exhaust and fugitive dust emissions during construction activities. Peak daily NO_x and fugitive PM₁₀ emissions from on- and off-site sources during construction would exceed ICAPCD's thresholds, which would be a significant impact when compared to both the existing environmental setting and the No Action Alternative.

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Table 3.3-12 Estimated Maximum Daily Construction Emissions for Project Alternatives (with Required Controls)

| Criteria Emissions | Alternative 1 | | Alternative 2 | | Alternative 3 | | Alternative 4 | | Alternative 5 | | Alternative 6 | |
|---|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| | lb/day | significant | lb/day | significant | lb/day | significant | lb/day | significant | lb/day | significant | lb/day | significant |
| Volatile Organic Compounds (VOC as CH ₄) | 18 | No | 14 | No | 21 | No | 11 | No | 11 | No | 13 | No |
| Carbon Monoxide (CO) | 77 | No | 62 | No | 93 | No | 38 | No | 38 | No | 40 | No |
| Oxides of Nitrogen (NO _x as NO ₂) | 207 | Yes | 165 | Yes | 248 | Yes | 121 | Yes | 121 | Yes | 121 | Yes |
| Sulfur Dioxide (SO _x as SO ₂) | 0.3 | No | 0.3 | No | 0.4 | No | 0.1 | No | 0.1 | No | 0.2 | No |
| Combustion Particulates (C-PM ₁₀) | 10.1 | No | 8.1 | No | 12.2 | No | 4.1 | No | 3.7 | No | 4.9 | No |
| Combustion Particulates (C-PM _{2.5}) | 8.7 | No | 6.9 | No | 10.4 | No | 3.5 | No | 3.4 | No | 4.2 | No |
| Fugitive Dust (F-PM ₁₀) | 194 | Yes | 155 | Yes | 169 | Yes | 58 | No | 61 | No | 81 | No |
| Fugitive Dust (F-PM _{2.5}) | 36 | No | 29 | No | 38 | No | 13 | No | 12 | No | 17 | No |
| Sources: SCAQMD 1993, updated in 2008; USEPA 2006, updated in 2011; USEPA 2010 Notes: Daily maximums do not include importing equipment from other areas in state (local emissions only) Fugitive dust and combustion particulates are determined separately | | | | | | | | | | | | |

Table 3.3-13 Estimated Maximum Daily Construction Fugitive Dust Emissions for Project Alternatives (with Required Controls)

| Fugitive Dust Emissions | Alternative 1 | | Alternative 2 | | Alternative 3 | | Alternative 4 | | Alternative 5 | | Alternative 6 | |
|--|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| | lb/day | significant | lb/day | significant | lb/day | significant | lb/day | significant | lb/day | significant | lb/day | significant |
| Fugitive Dust (F-PM ₁₀) - All Onsites | 1.5 | No | 1.5 | No | 1.8 | No | 1.3 | No | 1.3 | No | 1.5 | No |
| Fugitive Dust (F-PM ₁₀) - All Offsites | 192 | Yes | 154 | Yes | 167 | Yes | 57 | No | 60 | No | 80 | No |
| Fugitive Dust (F-PM ₁₀) - All Combined Totals | 194 | Yes | 155 | Yes | 169 | Yes | 58 | No | 61 | No | 81 | No |
| Fugitive Dust (F-PM _{2.5}) - All Onsites | 0.4 | No | 0.4 | No | 0.5 | No | 0.3 | No | 0.3 | No | 0.4 | No |
| Fugitive Dust (F-PM _{2.5}) - All Offsites | 35 | No | 28 | No | 38 | No | 13 | No | 12 | No | 16 | No |
| Fugitive Dust (F-PM _{2.5}) - All Combined Totals | 36 | No | 29 | No | 38 | No | 13 | No | 12 | No | 17 | No |
| Sources: USEPA 2006, updated in 2011; USEPA 2010 | | | | | | | | | | | | |
| Notes: | | | | | | | | | | | | |
| Daily maximums do not include importing equipment from other areas in state (local emissions only) | | | | | | | | | | | | |
| Fugitive dust and combustion particulates are determined separately | | | | | | | | | | | | |

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| Table 3.3-14 Estimated Total Construction Emissions for Project Alternatives (with Required Controls) (2 Years) | | | | | | |
|---|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Criteria Emissions | Alternative 1 | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 | Alternative 6 |
| | tons | tons | tons | tons | tons | tons |
| Volatile Organic Compounds (VOCs as CH ₄) | 5.5 | 4.5 | 6.2 | 3.3 | 2.9 | 3.8 |
| Carbon Monoxide (CO) | 19.6 | 16.1 | 22.2 | 11.8 | 10.4 | 13.4 |
| Oxides of Nitrogen (NO _X as NO ₂) | 48.4 | 40.3 | 55.1 | 29.3 | 26.3 | 33.6 |
| Sulfur Dioxide (SO _X as SO ₂) | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 |
| Combustion Particulates (C-PM ₁₀) | 1.9 | 1.6 | 2.2 | 1.1 | 1.0 | 1.3 |
| Combustion Particulates (C-PM _{2.5}) | 1.8 | 1.4 | 2.0 | 1.0 | 0.9 | 1.2 |
| Fugitive Dust (F-PM ₁₀) | 5.1 | 4.3 | 4.8 | 1.7 | 1.8 | 2.0 |
| Fugitive Dust (F-PM _{2.5}) | 0.9 | 0.8 | 1.0 | 0.4 | 0.3 | 0.4 |
| Sources: SCAQMD 1993, updated in 2008; USEPA 2006, updated in 2011; USEPA 2010 Notes: Totals include importing equipment from other areas in state Fugitive dust and combustion particulates are determined separately | | | | | | |

Table 3.3-15 Estimated Operational Emissions for Project Alternatives (with Required Controls)

| Criteria Emissions | Alternative 1 | | Alternative 2 | | Alternative 3 | | Alternative 4 | | Alternative 5 | | Alternative 6 | |
|--|---------------|---------|---------------|---------|---------------|---------|---------------|---------|---------------|---------|---------------|---------|
| | lb/day | tons/yr | lb/day | tons/yr | lb/day | tons/yr | lb/day | tons/yr | lb/day | tons/yr | lb/day | tons/yr |
| Volatile Organic Compounds (VOCs as CH ₄) | 2.4 | 0.10 | 2.4 | 0.10 | 2.4 | 0.11 | 2.4 | 0.09 | 2.4 | 0.09 | 2.4 | 0.09 |
| Carbon Monoxide (CO) | 8.9 | 0.46 | 8.9 | 0.45 | 8.9 | 0.49 | 8.9 | 0.40 | 8.9 | 0.40 | 8.9 | 0.42 |
| Oxides of Nitrogen (NO _x as NO ₂) | 20.5 | 0.74 | 20.5 | 0.73 | 20.5 | 0.81 | 20.5 | 0.64 | 20.5 | 0.64 | 20.5 | 0.68 |
| Sulfur Dioxide (SO _x as SO ₂) | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 | 0.0 | 0.00 |
| Combustion Particulates (C-PM ₁₀) | 0.8 | 0.04 | 0.8 | 0.04 | 0.8 | 0.04 | 0.8 | 0.03 | 0.8 | 0.03 | 0.8 | 0.03 |
| Combustion Particulates (C-PM _{2.5}) | 0.7 | 0.03 | 0.7 | 0.03 | 0.7 | 0.04 | 0.7 | 0.03 | 0.7 | 0.03 | 0.7 | 0.03 |
| Fugitive Dust (F-PM ₁₀) | 5.1 | 0.12 | 5.1 | 0.12 | 4.4 | 0.12 | 4.4 | 0.10 | 4.7 | 0.10 | 4.7 | 0.11 |
| Fugitive Dust (F-PM _{2.5}) | 0.8 | 0.02 | 0.8 | 0.02 | 0.8 | 0.02 | 0.8 | 0.02 | 0.8 | 0.02 | 0.8 | 0.02 |
| Sources: SCAQMD 1993, updated in 2008; USEPA 2006, updated in 2011; USEPA 2010 | | | | | | | | | | | | |
| Notes: | | | | | | | | | | | | |
| Fugitive dust and combustion particulates are determined separately | | | | | | | | | | | | |

Mitigation Measures

The SCH Project would be required to comply with ICAPCD's Regulation VIII, Fugitive Dust Control Measures (Appendix G), but the following additional measures would be implemented to further minimize impacts from NO_x and PM₁₀ emissions.

MM AQ-1: Implement fugitive PM₁₀ control measures. The following measures will be incorporated into the construction contract specifications in order to reduce PM₁₀ emissions from fugitive dust, in addition to those measures that are required for all projects by the ICAPCD:

- Water exposed soil with adequate frequency for continued moist soil (at least twice daily and indicated by soil and air conditions).
- Replace ground cover in disturbed areas as quickly as possible.
- Limit vehicle speed for all construction vehicles to 15 miles per hour on any unpaved surface at the construction site.
- Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.

MM AQ-2: Implement diesel control measures. The following measures will be incorporated into the construction contract specifications in order to reduce PM₁₀ and NO_x emissions from diesel engines, in addition to those measures that are required for all projects by the ICAPCD:

- A schedule of low-emissions tune-ups will be developed and such tune-ups will be performed on all equipment, particularly for haul and delivery trucks.
- Low-sulfur (≤ 15 ppmw S) fuels will be used in all stationary and mobile equipment.
- Curtail construction during periods of high ambient pollutant concentrations as directed by the ICAPCD.

Reschedule activities to reduce short-term impacts to the extent feasible.

Residual Impact

Implementation of the mitigation measures described above would reduce the PM₁₀ and NO_x impacts, but they would not be sufficient to reduce impacts to below the applicable thresholds; thus, the impact would be significant and unavoidable.

Impact AQ-4: The Project would contribute incrementally to violations of Federal and state O₃, PM₁₀, and PM_{2.5} standards during operations but would not exceed any regulatory thresholds (less-than-significant impact). As shown in Table 3.3-15, operational emissions would be limited to routine maintenance and associated vehicular traffic and would not exceed ICAPCD's thresholds.

Impact AQ-5: Project construction would result in a cumulatively considerable/significant net increase in emissions (significant impact). As shown in Tables 3.3-12 and 3.3-15, NO_x and PM₁₀ emissions during construction would exceed regulatory thresholds and should other projects considered in the cumulative impact analysis be under construction at the same time, also emitting NO_x and PM₁₀, the cumulative impact would be significant, and the Project's contribution would be cumulatively considerable/significant. Emissions from operations would not be cumulatively considerable/significant because they would be mobile, intermittent, and minor.

Mitigation Measures

All projects would be required to comply with the ICAPCD's Regulation VIII, which is not mitigation per se, but which would minimize PM₁₀ emissions. MM AQ-1 and MM AQ-2 would reduce the Project's

contribution to the significant cumulative impact, and other projects would be required to implement similar measures should their emissions exceed regulatory thresholds.

Residual Impacts

MM AQ-1 and MM AQ-2 would reduce the SCH Project's PM₁₀ emissions to below the regulatory threshold; given the implementation of these measures, the Project's contribution to the cumulative impact would not be considerable, and the residual impact would be less than significant. Implementation of MM AQ-2 would reduce the SCH Project's contribution to the NO_x impact, but the regulatory threshold would be exceeded, and the residual impact would be significant.

Impact AQ-6: Project emissions from construction and maintenance would not expose sensitive receptors to substantial pollutant concentrations (less-than-significant impact). DPM contains substances that are suspected carcinogens, along with pulmonary irritants and hazardous compounds that may affect sensitive receptors such as young children, senior citizens, or those susceptible to respiratory disease. Where construction activity occurs in proximity to long-term sensitive receptors, a potential exists for unhealthful exposure of those receptors to diesel exhaust, including residential receptors. The Project sites are located in a sparsely populated agricultural area, and no houses, parks, schools, libraries, senior facilities, day care centers, or hospitals are located within 1,000 feet of the potential construction sites. Similarly, the access routes are in agricultural areas, although isolated farmhouses are present at some locations. It is assumed that delivery of rock and gravel would produce a maximum of 150 tractor trailer round-trips per day for an approximately 2- to 3-month period. Delivery of equipment and materials like pipe to the Project site from more distant locations would require a maximum of 187 round-trips total over the 2 year construction period, which is the equivalent of approximately one long-distance trip every 2.5 days. The access roads are very lightly traveled (refer to Section 3.20, Transportation and Traffic) (well below their design capacity), and the addition of intermittent trips during construction would not expose sensitive receptors to health risks. Therefore, due to relatively low mass emissions, dispersion over a wide geographic area, lack of proximate receptors, and short timeframe (2 years), impacts would be less than significant when compared to both the existing environmental setting and No Action Alternative. Additionally, implementation of the control measures for diesel exhaust described in MMs AQ-1 and AQ-3 would further reduce any potential impacts associated with DPM.

Maintenance activities would emit far less DPM than construction and would also be less than significant.

Impact AQ-7: The Project could result in localized odors during construction, operations, and maintenance (less-than-significant impact). California ultralow sulfur diesel fuel with a maximum sulfur content of 15 ppm by weight would be required to be used in all diesel-powered equipment, which would minimize emissions of sulfurous gases (SO₂, hydrogen sulfide, carbon disulfide, and carbonyl sulfide). Excavation of anoxic sediments is not expected to produce odors, but should they occur, the odors would dissipate rapidly, and given the remote location, would not affect a substantial number of people. A potential exists for fish and bird die-offs to occur periodically during pond operations, which could result in odors. The ponds would be monitored, and dead birds would be removed by the California Department of Fish and Game, so odors would not develop. Should fish die-offs occur, birds would likely eat smaller fish (3 inches or less) quickly. Odors might occur while larger fish decomposed, but the New River sites are not located in an inhabited area, and any impacts would be less than significant when compared to both the existing environmental setting and the No Action Alternative.

Impact AQ-8: The Project would have a minor effect on the microclimate near the Salton Sea (less-than-significant impact). In the near term, the Project would not result in a change in microclimate because the SCH ponds would be constructed as the shoreline recedes and would replace waters recently contained within the Sea with water confined in ponds. As the Sea recedes, as described under the No Action Alternative, the microclimate is expected to change. The SCH Project would temper the changes

somewhat because it would replace a portion of what otherwise would be exposed playa with water-filled ponds. Any changes would be less than significant when compared to both the existing environmental setting and the No Action Alternative.

3.3.4.6 Alternative 2 – New River, Pumped Diversion

Impact AQ-1: Emissions from Project construction and maintenance are accounted for in applicable air quality plans and would not conflict with or obstruct their implementation (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative.

Impact AQ-2: The SCH ponds would cover more playa than would be exposed as a result of the Project, reducing the potential for wind-blown fugitive dust (beneficial impact). The discussion under Alternative 1 is applicable to this alternative, although by 2077, the net effect would be to cover an additional 790 acres of playa, rather than 940 acres.

Impact AQ-3a: The Project would contribute incrementally to violations of Federal and state O₃, PM₁₀, and PM_{2.5} standards and exceed ICAPCD's NO_x and PM₁₀ thresholds during construction (significant impact). The discussion under Alternative 1 is applicable to this alternative. MM AQ-1 and MM AQ-2 are applicable to this alternative, and the residual impact would remain significant.

Impact AQ-4: The Project would contribute incrementally to violations of Federal and state O₃, PM₁₀, and PM_{2.5} standards during operations but would not exceed any regulatory thresholds (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative.

Impact AQ-5: Project construction would result in a cumulatively considerable/significant net increase in emissions (significant impact). The discussion under Alternative 1 is applicable to this alternative.

Impact AQ-6: Project emissions from construction and maintenance would not expose sensitive receptors to substantial pollutant concentrations (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative.

Impact AQ-7: The Project could result in localized odors during construction, operations, and maintenance (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative.

Impact AQ-8: The Project would have a minor effect on the microclimate near the Salton Sea (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative.

3.3.4.7 Alternative 3 – New River, Pumped Diversion + Cascading Ponds

Impact AQ-1: Emissions from Project construction and maintenance are accounted for in applicable air quality plans and would not conflict with or obstruct their implementation (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative.

Impact AQ-2: The SCH ponds would cover more playa than would be exposed as a result of the Project, reducing the potential for wind-blown fugitive dust (beneficial impact). The discussion under Alternative 1 is applicable to this alternative, although by 2077, the net effect would be to cover an additional 1,150 acres of playa, rather than 940 acres.

Impact AQ-3a: The Project would contribute incrementally to violations of Federal and state O₃, PM₁₀, and PM_{2.5} standards and exceed ICAPCD's NO_x and PM₁₀ thresholds during construction

(significant impact). The discussion under Alternative 1 is applicable to this alternative. MM AQ-1 and MM AQ-2 are applicable to this alternative, and the residual impact would remain significant.

Impact AQ-4: The Project would contribute incrementally to violations of Federal and state O₃, PM₁₀, and PM_{2.5} standards during operations but would not exceed any regulatory thresholds (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative.

Impact AQ-5: Project construction would result in a cumulatively considerable/significant net increase in emissions (significant impact). The discussion under Alternative 1 is applicable to this alternative.

Impact AQ-6: Project emissions from construction and maintenance would not expose sensitive receptors to substantial pollutant concentrations (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative.

Impact AQ-7: The Project could result in localized odors during construction, operations, and maintenance (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative.

Impact AQ-8: The Project would have a minor effect on the microclimate near the Salton Sea (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative.

3.3.4.8 Alternative 4 – Alamo River, Gravity Diversion + Cascading Pond

Impact AQ-1: Emissions from Project construction and maintenance are accounted for in applicable air quality plans and would not conflict with or obstruct their implementation (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative.

Impact AQ-2: The SCH ponds would cover more playa than would be exposed as a result of the Project, reducing the potential for wind-blown fugitive dust (beneficial impact). The discussion under Alternative 1 is applicable to this alternative, although by 2077, the net effect would be to cover an additional 194 acres of playa, rather than 940 acres.

Impact AQ-3b: The Project would contribute incrementally to violations of Federal and state O₃, PM₁₀, and PM_{2.5} standards and exceed ICAPCD's NO_x threshold during construction (significant impact). The discussion under Alternative 1 is generally applicable to this alternative, except that the PM₁₀ threshold would not be exceeded. MM AQ-2 is applicable to this alternative, and the residual impact would remain significant.

Impact AQ-4: The Project would contribute incrementally to violations of Federal and state O₃, PM₁₀, and PM_{2.5} standards during operations but would not exceed any regulatory thresholds (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative.

Impact AQ-5: Project construction would result in a cumulatively considerable/significant net increase in emissions (significant impact). The discussion under Alternative 1 is applicable to this alternative, except the increase in PM₁₀ emissions would not be cumulatively considerable/significant.

Impact AQ-6: Project emissions from construction and maintenance would not expose sensitive receptors to substantial pollutant concentrations (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative, with the exception that additional sensitive receptors are located at Red Hill Park. A number of seasonal residents live in recreational vehicles at the park, and tent campers may be present, as well. The inhabited area is on the north side of the park, close to where the

1 saline pump and pipeline would be located. Their installation would proceed rapidly, and construction
2 equipment would only work within 1,000 feet of the residents for a limited time. This would not be
3 enough to result in an increased health risk, and impacts would remain less than significant when
4 compared to both the existing environmental setting and No Action Alternative.

5 **Impact AQ-7: The Project could result in localized odors during construction, operations, and**
6 **maintenance (less-than-significant impact).** The discussions under Alternatives 1 and 3 are applicable
7 to this alternative.

8 **Impact AQ-8: The Project would have a minor effect on the microclimate near the Salton Sea (less-**
9 **than-significant impact).** The discussion under Alternative 1 is applicable to this alternative.

10 **3.3.4.9 Alternative 5 – Alamo River, Pumped Diversion**

11 **Impact AQ-1: Emissions from Project construction and maintenance are accounted for in**
12 **applicable air quality plans and would not conflict with or obstruct their implementation (less-than-**
13 **significant impact).** The discussion under Alternative 1 is applicable to this alternative.

14 **Impact AQ-2: The SCH ponds would cover more playa than would be exposed as a result of the**
15 **Project, reducing the potential for wind-blown fugitive dust (beneficial impact).** The discussion
16 under Alternative 1 is applicable to this alternative, although by 2077, the net effect would be to cover an
17 additional 600 acres of playa, rather than 940 acres.

18 **Impact AQ-3b: The Project would contribute incrementally to violations of Federal and state O₃,**
19 **PM₁₀, and PM_{2.5} standards and exceed ICAPCD's NO_x threshold during construction (significant**
20 **impact).** The discussion under Alternative 1 is generally applicable to this alternative, except that the
21 PM₁₀ threshold would not be exceeded. MM AQ-2 is applicable to this alternative, and the residual
22 impact would remain significant.

23 **Impact AQ-4: The Project would contribute incrementally to violations of Federal and state O₃,**
24 **PM₁₀, and PM_{2.5} standards during operations but would not exceed any regulatory thresholds (less-**
25 **than-significant impact).** The discussion under Alternative 1 is applicable to this alternative, although
26 emissions would be greater because more construction would occur.

27 **Impact AQ-5: Project construction would result in a cumulatively considerable/significant net**
28 **increase in NO_x and PM₁₀ emissions (significant impact).** The discussion under Alternative 1 is
29 applicable to this alternative, except the increase in PM₁₀ emissions would not be cumulatively
30 considerable/significant.

31 **Impact AQ-6: Project emissions from construction and maintenance not expose sensitive receptors**
32 **to substantial pollutant concentrations (less-than-significant impact).** The discussion under
33 Alternative 1 and 4 are applicable to this alternative, although only the pipeline would be in proximity to
34 Red Hill Park.

35 **Impact AQ-7: The Project could result in localized odors during construction, operations, and**
36 **maintenance (less-than-significant impact).** The discussions under Alternatives 1 and 3 are applicable
37 to this alternative.

38 **Impact AQ-8: The Project would have a minor effect on the microclimate near the Salton Sea (less-**
39 **than-significant impact).** The discussion under Alternative 1 is applicable to this alternative.

3.3.4.10 Alternative 6 – Alamo River, Pumped Diversion + Cascading Ponds

Impact AQ-1: Emissions from Project construction and maintenance are accounted for in applicable air quality plans and would not conflict with or obstruct their implementation (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative.

Impact AQ-2: The SCH ponds would cover more playa than would be exposed as a result of the Project, reducing the potential for wind-blown fugitive dust (beneficial impact). The discussion under Alternative 1 is applicable to this alternative, although by 2077, the net effect would be to cover an additional 880 acres of playa, rather than 940 acres, although only an additional 46 acres would be exposed by 2077.

Impact AQ-3b: The Project would contribute incrementally to violations of Federal and state O₃, PM₁₀, and PM_{2.5} standards and exceed ICAPCD's NO_x threshold during construction (significant impact). The discussion under Alternative 1 is generally applicable to this alternative, except that the PM₁₀ threshold would not be exceeded. MM AQ-2 is applicable to this alternative, and the residual impact would remain significant.

Impact AQ-4: The Project would contribute incrementally to violations of Federal and state O₃, PM₁₀, and PM_{2.5} standards during operations but would not exceed any regulatory thresholds (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative.

Impact AQ-5: Project construction would result in a cumulatively considerable/significant net increase in NO_x and PM₁₀ emissions (significant impact). The discussion under Alternative 1 is applicable to this alternative, except the increase in PM₁₀ emissions would not be cumulatively/significant considerable.

Impact AQ-6: Project emissions from construction and maintenance would not expose sensitive receptors to substantial pollutant concentrations (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative; construction would not occur within 1,000 feet of the residents at Red Hill Park.

Impact AQ-7: The Project could result in localized odors during construction, operations, and maintenance (less-than-significant impact). The discussions under Alternatives 1 and 4 are applicable to this alternative.

Impact AQ-8: The Project would have a minor effect on the microclimate near the Salton Sea (less-than-significant impact). The discussion under Alternative 1 is applicable to this alternative.

3.3.5 General Conformity

Under section 176(c)(1) of the Federal CAA, Federal agencies that “engage in, support in any way or provide financial assistance for, license or permit, or approve any activity”⁹ must demonstrate that such actions do not interfere with state and local plans to bring an area into attainment with the NAAQS. Imperial County is designated nonattainment for the Federal 8-hour ozone NAAQS, while the Imperial Valley (which is the Salton Sea Air Basin's Imperial County portion) is designated as nonattainment area for 24-hour Federal PM₁₀ and PM_{2.5}. The program by which a Federal agency determines that its action would not obstruct or conflict with air quality attainment plans is called “General Conformity.” The implementing regulations for General Conformity are found in 40 CFR part 93, subpart B.¹⁰

⁹ 42 USC section 7506(c)

¹⁰ General conformity regulations were recently amended effective July 6, 2010. (75 FR 17254 (April 5, 2010))

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Under the General Conformity regulations, both the direct and indirect emissions associated with a Federal action must be evaluated. 40 CFR part 93, subpart B defines direct emissions as:

[T]hose emissions of a criteria pollutant or its precursors that are caused or initiated by the Federal action and originate in a nonattainment or maintenance area and occur at the same time and place as the action and are reasonably foreseeable.¹¹

Indirect emissions are defined as:

[T]hose emissions of a criteria pollutant or its precursors:

1. That are caused or initiated by the Federal action and originate in the same [Federal] nonattainment or maintenance area, but occur at a different time or place as the action;
2. That are reasonably foreseeable;
3. That the agency can practically control; and
4. For which the agency has continuing program responsibility.

For purposes of this definition, even if a Federal licensing, rulemaking, or other approving action is a required initial step for a subsequent activity that causes emissions, such initial steps do not mean that a Federal agency can practically control any resulting emissions.¹²

When describing the 2010 revisions to the definition of indirect emissions, USEPA offered the following explanation:

EPA is revising the definition for indirect emissions to clarify that only indirect emissions originating in a nonattainment or maintenance area need to be analyzed for conformity with the applicable SIP. In addition EPA is revision the definition of “indirect emissions” to clarify what is meant by “the agency can practically control” and “for which the agency has continuing program responsibility.” This clarification represents EPA's long standing position that Congress did not intend for conformity to apply to “cases where although licensing or approving action is a required initial step for a subsequent activity that causes emissions, the agency has no control over that subsequent activity, either because there is no continuing program responsibility or ability to practically control.”¹³

The 2010 revisions to the definition of "indirect emissions" are consistent with the preamble to the 1993 General Conformity Rule, which explicitly defined and limited the responsibilities of the Corps with regard to non-Federal activities needing Corps permit authorization. In essence, the Corps is not legally required to document, analyze, and seek mitigation measures for any indirect emissions of actions requiring Corps permit authorization, since it would not be practicable for the Corps to control such emissions; and, frequently, the Corps would not have a continuing program responsibility to maintain control over them.

As explained in the 1993 preamble:

The EPA does not believe that it is reasonable to conclude that a Federal agency ‘supports’ an activity by third persons over whom the agency has no practicable control – or ‘supports’ emissions over which the agency has no practicable control – based on the

¹¹ 40 CFR section 93.152 (as revised April 5, 2010, effective July 6, 2010; 75 FR 17273)

¹² 40 CFR section 93.152 (as revised April 5, 2010, effective July 6, 2010; 75 FR 17273)

¹³ 75 FR 17260 (April 5, 2010) (citations omitted)

1 mere fact that, if one inspects the 'causal' chain of events, the activity or emissions can
2 be described as being a 'reasonably foreseeable' result of the agency's actions.¹⁴

3 USEPA explained in the 1993 preamble that "the person's (i.e., permit applicant's) activities that fall
4 outside of the Federal agency's continuing program responsibility to control are subject to control by state
5 and local agencies."¹⁵ Therefore, the Corps does not have a continuing program responsibility to measure,
6 monitor, control, or mitigate for air emissions that may result from the construction or operation of a non-
7 Corps facility, even though some part, portion, or phase of that facility requires a permit from the Corps.
8 Under the CAA, the state and local clean air agencies have full responsibility and authority to address
9 those emissions, and to prevent or condition the construction of the non-Federal facility as necessary to
10 deal with those air emissions.

11 USEPA also stated its belief "that Congress did not intend the General Conformity rule to affect
12 innumerable Federal actions, impose analytical requirements on activities that are very minor in terms of
13 Federal involvement and air quality impacts, and result in significant expense and delay."¹⁶

14 The preamble to the 1993 General Conformity Rule provided an explicit example that defines the Corps'
15 responsibility and shows a close relationship between the definition of Federal action and the restrictive
16 language from the definition of indirect emission as follows:

17 Assume for example, that the Corps issues a permit and that permitted fill activity
18 represents one phase of a larger non-Federal undertaking; i.e., the construction of an
19 office building by a non-Federal entity. Under the conformity rule, the Corps would be
20 responsible for addressing all emissions from that one phase of the overall office
21 development undertaking that the Corps permit; i.e., the fill activity at the wetland site.
22 However, the Corps is not responsible for evaluating all emissions from later phases of
23 the overall office development (the construction, operation, and use of the office building
24 itself), because later phases generally are not within the Corps continuing program
25 responsibility and generally cannot be practicably controlled by the Corps.¹⁷

26 In addition, the approach taken in the EIS/EIR is consistent with the Corps' guidance memorandum
27 regarding implementation of the General Conformity Rule:

28 [G]enerally, speaking the Corps does not have a continuing program responsibility to
29 measure, monitor, control, or mitigate for air emissions that may result from the
30 construction or operation of a non-Corps facility (such as a shopping center, factory, or
31 non-Federal port), even though some part, portion, or phase of that facility requires a
32 permit from the Corps. Under the CAA, the state and local clean air authorities have full
33 responsibility and authority to deal with those emissions, and to prevent or condition the
34 construction of the non-Federal facility as necessary to deal with those air emissions.¹⁸

35 Since the Corps would not be responsible for ongoing long-term operation and maintenance of the habitat
36 area (i.e., it would not have continuing program responsibility), neither directly through actions nor

¹⁴ 58 FR 63220 (Nov 30, 1993)

¹⁵ 58 FR 63222 (Nov 30, 1993)

¹⁶ 58 FR 63219 (Nov 30, 1993)

¹⁷ 58 FR 63227 (Nov 30, 1993)

¹⁸ U.S. Army Corps of Engineers, Memorandum For All Major Subordinate Commanders, and District
Commanders, Subject: USEPA's Clean Air Act (CAA) General Conformity Rule, from Lester Edelman, Chief
Counsel, Corps (CECC-E) (April 20, 1994)

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indirectly through funding, General Conformity would not apply after completion of the initial construction project.

The General Conformity regulations incorporate a stepwise process, beginning with an applicability analysis. According to USEPA guidance (USEPA 1994), before any approval is given for a Federal action to go forward, the regulating Federal agency must apply the applicability requirements found at 40 CFR section 93.153, subdivision (b) to the Federal action to evaluate whether, on a pollutant-by-pollutant basis, a determination of General Conformity is required. The guidance states that the applicability analysis can be (but is not required to be) completed concurrently with the NEPA analysis. If the regulating Federal agency determines that the General Conformity regulations do not apply to the Federal action, no further analysis or documentation is required. If the General Conformity regulations do apply to the Federal action, the regulating Federal agency must next conduct a conformity evaluation in accordance with the criteria and procedures in the implementing regulations, publish a draft determination of General Conformity for public review, and then publish the final determination of General Conformity.

A conformity determination is required for each criteria pollutant or precursor where the total of direct and indirect emissions of the criteria pollutant or precursor in a Federal nonattainment or maintenance area would equal or exceed specified annual emission rates, referred to as “*de minimis*” thresholds.” For ozone precursor and PM₁₀, the *de minimis* thresholds depend on the severity of the nonattainment classification. In an extreme ozone nonattainment area, the *de minimis* thresholds are 10 tons per year for both NO_x and VOC. In a serious PM₁₀ nonattainment area, the *de minimis* threshold is 70 tons per year. For other pollutants, the threshold is set at 100 tons per year, as shown in Table 3.3-11.

The General Conformity regulations require that a General Conformity determination analyze the following emissions scenarios:

- (1) the attainment year specified in the SIP, or if the SIP does not specify an attainment year, the latest attainment year possible under the Act; or (2) the last year for which emissions are projected in the maintenance plan; (3) the year during which the total of direct and indirect emissions from the action is expected to be the greatest on an annual basis; and (4) any year for which the applicable SIP specifies an emissions budget (40 CFR section 93.159, subdivision (d), as amended, effective July 6, 2010).

On January 10, 2008 the USEPA made the finding that the Imperial Valley serious PM₁₀ nonattainment area did not attain the 24-hour PM₁₀ NAAQS by the December 31, 2001 deadline mandated in the CAA. In response to this finding, the State of California was required to submit a revision to the SIP that provided for attainment of the PM₁₀ standard in the Imperial Valley area and at least 5 percent annual reductions in PM₁₀ or PM₁₀ precursor emissions until attainment as required by CAA section 189(d). The State was required to submit the SIP revision by December 11, 2008.¹⁹

On January 4, 2010 the USEPA determined that the Imperial County moderate 8-hour ozone nonattainment area had attained the 1997 8-hour NAAQS for ozone. This determination was based on certified ambient air monitoring data that showed monitored attainment of the 8-hour ozone NAAQS since the 2006 to 2008 monitoring period. In addition, quality controlled and quality assured ozone data for 2008 available in the USEPA Air Quality System database, but not yet certified at the time, showed that the area continued to attain the 1997 8-hour ozone NAAQS. The determination suspended the requirements for California to submit an attainment demonstration, a reasonable further progress plan, contingency measures, and other planning SIPs for the area related to attainment of the 8-hour ozone

¹⁹ 72 FR 70222 (December 11, 2007)

NAAQS. These requirements remain suspended for so long as the area continues to attain the ozone NAAQS.²⁰

As a result of these USEPA findings and determinations, there is no specific attainment year for PM₁₀, only annual increments of 5 percent reductions (these reductions constitute the emissions budget). Ozone is tentatively in attainment pending certification of 2008 monitoring data, until any future USEPA determination to the contrary. Thus, the year during which the total of direct and indirect emissions from the action is expected to be the greatest on an annual basis is the appropriate scenario for this analysis. This General Conformity determination is properly focused on emissions related to construction only, shown in Tables 3.3-16 and 3.3-17.

Table 3.3-16 Annual Construction Emissions Compared to General Conformity Thresholds for the SCH Project Alternatives (with Required Controls)

| Criteria Emissions | Threshold | Alternative 1 | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 | Alternative 6 | Over Threshold |
|--|------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| | tons/yr | tons/yr | tons/yr | tons/yr | tons/yr | tons/yr | tons/yr | |
| Volatile Organic Compounds (VOC as CH ₄) | n/a ^a | 2.7 | 2.3 | 3.1 | 1.7 | 1.5 | 1.9 | n/a |
| Carbon Monoxide (CO) | 100 | 9.8 | 8.1 | 11.1 | 5.9 | 5.2 | 6.7 | No |
| Oxides of Nitrogen (NO _x as NO ₂) | n/a ^a | 24.2 | 20.2 | 27.5 | 14.6 | 13.2 | 16.8 | n/a |
| Sulfur Dioxide (SO _x as SO ₂) | 100 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | No |
| Combustion Particulates (C-PM ₁₀) | 70 | 1.0 | 0.8 | 1.1 | 0.6 | 0.5 | 0.6 | No |
| Combustion Particulates (C-PM _{2.5}) | 100 | 0.9 | 0.7 | 1.0 | 0.5 | 0.5 | 0.6 | No |
| Fugitive Dust (F-PM ₁₀) | 70 | 2.5 | 2.2 | 2.4 | 0.9 | 0.9 | 1.0 | No |
| Fugitive Dust (F-PM _{2.5}) | 100 | 0.5 | 0.4 | 0.5 | 0.2 | 0.2 | 0.2 | No |

Sources: SCAQMD 2008, USEPA 2006, USEPA 2010, 40 CFR sections 6, 51, & 93 (58 FR 63214)

Notes:

Volatile organic compounds and oxides of nitrogen are not applicable because Imperial County is not in serious, severe, or extreme nonattainment for this pollutant, and thresholds for such areas are the only ones that have been developed.

Totals include importing equipment from other areas in state

Fugitive dust and combustion particulates are determined separately

²⁰ 74 FR 63309 (December 3, 2009)

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| Table 3.3-17 Percentage of Construction Emissions from SCH Alternatives Compared to Regional Inventory (with Required Controls) | | | | | | | | |
|--|------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-----------------------------|
| Criteria Emissions | Inventory | Alternative 1 | Alternative 2 | Alternative 3 | Alternative 4 | Alternative 5 | Alternative 6 | Percent of Inventory |
| | tons/day | lb/day | lb/day | lb/day | lb/day | lb/day | lb/day | |
| Volatile Organic Compounds (VOC as CH ₄) | 48.1 | 18 | 14 | 21 | 11 | 11 | 13 | 0.015 |
| Carbon Monoxide (CO) | 176.2 | 77 | 62 | 93 | 38 | 38 | 40 | 0.016 |
| Oxides of Nitrogen (NO _x as NO ₂) | 83.3 | 207 | 165 | 248 | 121 | 121 | 121 | 0.098 |
| Sulfur Dioxide (SO _x as SO ₂) | 0.7 | 0.3 | 0.3 | 0.4 | 0.1 | 0.1 | 0.2 | 0.016 |
| Combustion Particulates (C-PM ₁₀) | 12.5 | 10.1 | 8.1 | 12.2 | 4.1 | 3.7 | 4.9 | 0.029 |
| Combustion Particulates (C-PM _{2.5}) | 10.8 | 8.7 | 6.9 | 10.4 | 3.5 | 3.4 | 4.2 | 0.029 |
| Fugitive Dust (F-PM ₁₀) | 238.4 | 194 | 155 | 169 | 58 | 61 | 81 | 0.025 |
| Fugitive Dust (F-PM _{2.5}) | 47.7 | 36 | 29 | 38 | 13 | 12 | 17 | 0.025 |
| Sources: SCAQMD 2008, USEPA 2006, EPA 2010, CARB 2010e Notes: Daily maximums do not include importing equipment from other areas in state (local emissions only) Inventory of combustion particulates and PM _{2.5} approximated based on combined PM ₁₀ inventory Percent of inventory is average across alternatives Fugitive dust and combustion particulates are determined separately | | | | | | | | |

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3 Annual emissions for the six Project alternatives are compared to the General Conformity *de minimis*
 4 levels for NAAQS nonattainment areas. Annual emissions of NO_x, VOC, PM₁₀, and PM_{2.5} for any
 5 alternative would be well below applicable General Conformity thresholds (i.e., moderate for ozone,
 6 serious for PM₁₀) and thus in conformance with the applicable SIPs. Daily emissions across alternatives
 7 would be well below 10 percent of the emission inventory and thus would not be regionally significant
 8 would be in conformance with the applicable SIPs. Based on these findings, the Corps finds that the
 9 Federal action, as designed, would conform to the approved SIPs for ozone and PM₁₀.

Annual emissions for the six Project alternatives were compared to the General Conformity *de minimis* levels for NAAQS nonattainment areas. Annual emissions of NO_x, VOC, PM₁₀, and PM_{2.5} for each alternative would be well below applicable General Conformity thresholds (i.e., moderate for ozone, serious for PM₁₀) and thus in conformance with the SIPs. Daily emissions across alternatives would be well below 10 percent of the emission inventory, would not be regionally significant, and thus would be in conformance with the SIPs. Based on these findings, the Corps has determined that the Federal action, as designed, would conform to the approved SIPs for ozone and PM₁₀.

In addition, short-term direct construction emissions associated with the Project would not conflict with or obstruct implementation of applicable long-term air quality management plans. Therefore, the Project's impact with respect to the significance criterion: "Would the Project conflict with or obstruct implementation of an applicable air quality plan" would be less than significant.

3.3.6 References

- Bay Area Air Quality Management District. 2008. *Toxic air contaminants inventory*. Website (<http://www.baaqmd.gov/Divisions/Engineering/Air-Toxics/Toxic-Air-Contaminant-Control-Program-Annual-Report.aspx>) accessed November 17, 2010.
- California Air Resources Board (CARB). 2005. Characterization of ambient PM₁₀ and PM_{2.5} in California. Website (<http://www.arb.ca.gov/pm/pmmeasures/pmch05/stateover05.pdf>).
- California Air Resources Board (CARB). 2006. *2005 estimated annual average emissions: Salton Sea Air Basin, Imperial County, and Riverside County*. Website (<http://www.arb.ca.gov/app/emsinv/emssumcat.php>) accessed November 4, 2010.
- California Air Resources Board (CARB). 2010a. *2008 estimated annual average emissions – Imperial County*. Website (<http://www.arb.ca.gov/app/emsinv/emssumcat.php>) accessed October 21, 2010.
- California Air Resources Board (CARB). 2010b. *2008 estimated annual average emissions – Riverside County*. Website (http://www.arb.ca.gov/app/emsinv/emssumcat_query.php) accessed October 21, 2010.
- California Air Resources Board (CARB). 2010c. *2008 estimated annual average emissions - Salton Sea Air Basin*. Website (<http://www.arb.ca.gov/app/emsinv/emssumcat.php>) accessed October 21, 2010.
- California Air Resources Board (CARB). 2010d. *Air quality trend summaries*. Website (<http://www.arb.ca.gov/adam/trends/trends1.php>) accessed October 27, 2010.
- California Air Resources Board (CARB). 2010e. Mobile and stationary source Airborne Toxic Control Measures (ATCMs). Website (http://www.arb.ca.gov/msprog/ordiesel/faq/overview_fact_sheet_dec_2010-final.pdf).
- California Air Resources Board (CARB). 2010f. National and California Ambient Air Quality Standards. Website (<http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>).
- California Irrigation Management Information System (CIMIS). 2010. *Meteorological stations overseen in the Imperial/Coachella Valley region by DWR*. Website (<http://www.cimis.water.ca.gov/cimis/>) accessed October 18, 2010.

SECTION 3.0
AFFECTED ENVIRONMENT, IMPACTS, AND MITIGATION MEASURES

- 1 California Department of Water Resources (DWR) and California Department of Fish and Game (DFG)
2 2007. Salton Sea Ecosystem Restoration Program Final Programmatic Environmental Impact
3 Report.
- 4 County of Imperial. 2008. Imperial County General Plan: Land use element. Website
5 (<http://www.icpds.com/?pid=571>).
- 6 Imperial County Air Pollution Control District (ICAPCD). 2004. Development of a wind blown fugitive
7 dust model and inventory for Imperial County, California. Final report. May. Website
8 (<http://imperialcounty.net/AirPollution/Attainment%20Plans/PM10%20RELATED%20DOCUMENTS/EXCEPTIONAL%20EVENTS%20DOCUMENTS/June%205,%202007%20Even%20Addendum/04%20Attachment%20A%20-%20Windblown%20Dust%20Final%20Report.pdf>).
- 12 Imperial County Air Pollution Control District (ICAPCD). 2005. Draft final technical memorandum
13 Regulation VIII BACM analysis. October. Website
14 (<http://imperialcounty.net/AirPollution/Attainment%20Plans/PM10%20RELATED%20DOCUMENTS/REGULATION%20VIII%20DOCUMENTS/03%20BACM%20ASSESSMENT%20ENVIRON.pdf>).
- 17 Imperial County Air Pollution Control District (ICAPD). 2007. CEQA air quality handbook. November.
18 Website
19 ([http://www.co.imperial.ca.us/AirPollution/Forms%20&%20Documents/CEQA/CEQA%20H
20 andbk%20Nov%202007.pdf](http://www.co.imperial.ca.us/AirPollution/Forms%20&%20Documents/CEQA/CEQA%20Handbk%20Nov%202007.pdf)).
- 21 Imperial County Air Pollution Control District (ICAPCD) 2009. 2009 Imperial County State
22 Implementation Plan for particulate matter less than 10 microns in aerodynamic diameter.
23 Website
24 ([http://www.co.imperial.ca.us/AirPollution/Attainment%20Plans/Final%20IC%202009%20P
25 M10%20SIP%20Document.pdf](http://www.co.imperial.ca.us/AirPollution/Attainment%20Plans/Final%20IC%202009%20PM10%20SIP%20Document.pdf)).
- 26 Imperial County Air Pollution Control District (ICAPCD) 2010a. 2009 Reasonable Available Control
27 Technology (RACT) State Implementation Plan. Website
28 ([http://www.co.imperial.ca.us/AirPollution/Attainment%20Plans/RACT/2010%20RACT%20
29 WORK/ADOPTED%20FINAL%20RACTANALYSIS%20JULY%202010.pdf](http://www.co.imperial.ca.us/AirPollution/Attainment%20Plans/RACT/2010%20RACT%20WORK/ADOPTED%20FINAL%20RACTANALYSIS%20JULY%202010.pdf)).
- 30 Imperial County Air Pollution Control District (ICAPCD). 2010b. Final 2009 8-hour ozone modified air
31 quality management plan. Website
32 ([http://www.co.imperial.ca.us/AirPollution/ATTAINMENT%20PLANS/2009%20MODIFIE
33 D%208-
34 HOUR%20OZONE%20AQMP/ADOPTED%208%20HR%20OZONE%20AQMP%20JULY
35 %202010.pdf](http://www.co.imperial.ca.us/AirPollution/ATTAINMENT%20PLANS/2009%20MODIFIED%208-HOUR%20OZONE%20AQMP/ADOPTED%208%20HR%20OZONE%20AQMP%20JULY%202010.pdf)).
- 36 Salton Sea Authority and Bureau of Reclamation. 2000. Salton Sea restoration project, Draft
37 Environmental Impact Statement/Environmental Impact Report. Prepared by Tetra Tech, Inc.
38 January. Website (http://www.usbr.gov/lc/region/saltsea/DEIS/01-Cover_Page.pdf).
- 39 South Coast Air Quality Management District (SCAQMD). 1993 (updated in 2008). CEQA air quality
40 handbook. No longer available online pending development of new *Air quality analysis
41 guidance handbook* (<http://www.aqmd.gov/ceqa/hdbk.html>). *Emission factors from this
42 reference are included in Appendix G.*

1 U.S. Army Corps of Engineers (Corps). 1994. Memorandum for all major subordinate Commanders, and
2 District Commanders, Subject: USEPA's Clean Air Act (CAA) General Conformity Rule,
3 from Lester Edelman, Chief Counsel, Corps (CECC-E). April 20.

4 U.S. Department of Energy and Bureau of Land Management. 2004. *Draft Environmental Impact*
5 *Statement for the Imperial-Mexicali 230-kV transmission lines*. Website
6 (<http://web.ead.anl.gov/bajatermoeis/documents/drafteis/index.cfm>) accessed October 7,
7 2010.

8 U.S. Environmental Protection Agency (USEPA). 2006 (updated in 2011). Compilation of air pollution
9 emission factors (AP-42), fifth edition (1995-2010). Website
10 (<http://www.epa.gov/ttn/chief/ap42/>).

11 U.S. Environmental Protection Agency (USEPA). 2010. *National Ambient Air Quality Standards*
12 *(NAAQS)*. Website (<http://www.epa.gov/air/criteria.html>) accessed October 29, 2010.

13 Ventura County Air Pollution Control District (VCAPCD). 2003. Ventura County air quality assessment
14 guidelines. Website (<http://www.vcapcd.org/pubs/Planning/VCAQGuidelines.pdf>).

15 **3.3.7 Personal Communications**

16 Mercurio, Kira. 2011. Accountant, Imperial County Planning & Development Services. Personal
17 communication with Sarah Bumby, Cardno ENTRIX. May 31.

SECTION 3.0
AFFECTED ENVIRONMENT, IMPACTS, AND MITIGATION MEASURES

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